



Instituto de Geografia
e Ordenamento do Território
UNIVERSIDADE DE LISBOA



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Going Green: sustainability in the airline industry – TAP Group Study

Paulina Maria Slaska

Dissertação orientada
pelo Prof. Doutor Nuno Manuel Sessarego Marques da Costa
Mestrado em Turismo e Comunicação

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List of Abbreviation

ATAG	Air Transport Action Group
CO₂	Carbon dioxide
CSR	Corporate Social Responsibility
ETS	Emission Trading Scheme
EU	European Union
EUR	Euro
GDP	Gross Domestic Product
GHG	Greenhouse gas
GRI	Global Reporting Initiative
IATA	International Air Transport Association
IMF	International Monetary Fund
LCC	Low Cost Carriers
TBL	Triple bottom line
USD	United States dollar

Abstract

Sustainability reporting is nowadays one of the most important strategies of the businesses to present their green image. During the previous years, the topic of sustainability communication became popular among researchers who studied it in relation to different industries. However, the topic of sustainability communication was not widely developed in relation to aviation sector. This study aims to look how sustainability is perceived and communicated by the airline industry. Using a case study as a method, the thesis examines the sustainability practices of TAP Group by looking at company profile and history, annual sustainability reports and conducting semi-structured interviews within the company. The analysis of sustainability report has a qualitative nature and focuses mainly on three perspectives: environmental, economic and social. This part of the study found that TAP Group is making tremendous efforts to be perceived as a green airline by undertaking new initiatives each year since the beginning of reporting period. The biggest efforts are made in relation to environmental sustainability that is the largest issue for the industry. Another finding showed that the communication of sustainability in the company different departments is not well maintained and that company employees are not satisfied with this situation. The study also looked at several other airlines of different profiles and their initiatives regarding sustainability to maintain green image. As a sample the study analyzed profiles and sustainability communication of two additional airlines belonging to Star Alliance, two from the One World, two from SkyTeam and two independent low-cost airlines. It concludes that sustainability, especially the environmental perspective, is considered to be the most important and all actions are broadly communicated in the aviation industry. Another important finding shows that different airlines adopt communication channels but report the issues to different extent. This difference is most clearly visible in non-EU airlines that are far behind in sustainability reporting than European carriers.

Key-words: aviation sustainability, air transport, sustainability reporting, CSR, TAP Group

Resumo

O transporte aéreo desempenha um papel muito importante ao permitir o contacto entre populações neste novo milénio, podendo ser considerado com um efetivo WOLD WIDE WEB ao permitir a ligação entre os diferentes países através das redes das distintas companhias aéreas. O transporte aéreo contribui igualmente de forma muito significativa para o desenvolvimento económico gerando, segundo a IATA (International Air Transport Association), cerca de 2,4 biliões de dólares americanos do produto mundial e empregando 58 milhões pessoas em todo o mundo (IATA, 2016). Segundo a mesma fonte, em 2034 esses valores atingirão os 6 biliões de dólares de contribuição para o produto mundial e os 105 milhões de empregos. Estes valores são ilustrativos da importância que o transporte aéreo tem na economia mundial.

No entanto, esta atividade acarreta um custo elevado, uma vez que o aumento do consumo de combustíveis fósseis associado ao transporte aéreo tem aumentado e com isso a preocupação em relação à sua sustentabilidade. As emissões diretas não podendo ser completamente eliminadas podem ser reduzidas. De acordo com o CEO da IATA, o principal desafio é o da disponibilidade de biocombustíveis sustentáveis e a do seu preço. Muito terá de ser feito a uma escala global e nenhum Estado ou empresa de transporte aéreo poderá resolver o problema de forma isolada. Nesse sentido, e de acordo com a IATA, a configuração das infraestruturas e o planeamento das operações podem contribuir de forma efetiva para a redução das emissões.

A sustentabilidade constitui, para muitos, um conceito vago e não apresenta uma definição universal. O termo sustentabilidade tem origem latina de *sustinere* e terá sido utilizado pela primeira vez na literatura relacionada com a produção florestal associada à “sustentabilidade da floresta” no início do século XVIII. Muito mais tarde, nos anos oitenta do século XX, a sustentabilidade associada ao desenvolvimento foi definida como “*development that meets of the present without compromising the ability of future generations to meet those needs*” (Brundtland et al., 1987, p. 398). Desde então, a sustentabilidade tem sido entendida centrada em três pilares: a economia, o ambiente e a sociedade (Thiele, 2013).

As companhias aéreas encontram-se sob grande pressão por parte dos diferentes governos e das distintas entidades de regulação, no sentido de reportarem e implementarem práticas sustentáveis na sua atividade e as principais companhias aéreas têm vindo a publicar anualmente os seus relatórios de sustentabilidade onde apresentam as ações por si desenvolvidas e onde mostram o seu compromisso com os objetivos de sustentabilidade. Os

relatórios de sustentabilidade destas empresas apresentam um vasto conjunto de informação acerca das ações por si desenvolvidas no âmbito económico, social e ambiental, bem como dos resultados dessas ações. O que tem faltado na discussão académica sobre a atividade do transporte aéreo é a apresentação de uma visão holística das ações para a sustentabilidade tomadas pelos diferentes atores desta indústria e de como essas ações são comunicadas pelas empresas, tanto internamente como externamente, aos seus clientes. Será que todas as empresas de transporte aéreo estão a desenvolver o mesmo tipo de ações? Haverá diferenças substanciais nos seus relatórios de sustentabilidade? Será que a estratégia de comunicação é efetiva? O presente trabalho pretende contribuir para preencher esta lacuna através da comparação das ações sustentáveis desenvolvidas pelas principais companhias de transporte aéreo e membros das diferentes alianças de transportadoras aéreas. Parte do estudo inclui entrevistas realizadas na TAP Portugal de forma a obter um conhecimento mais aprofundado da forma como o conceito de sustentabilidade é assumido por aquela empresa. A visão resultante das entrevistas conduzidas na TAP Portugal naturalmente não pode ser generalizada para todo o universo das empresas de transporte aéreo, mas permitiu obter um conhecimento frutuoso das diferentes ações sustentáveis assumidas pela empresa.

Na primeira parte do trabalho, é apresentada uma breve análise das companhias aéreas analisadas e que integram diferentes alianças, através da análise das atividades desenvolvidas pelas companhias e pela informação disponível nos seus *websites*. A primeira constatação é de que existem grandes diferenças nas atividades desenvolvidas em termos de ações, ao mesmo tempo que existem referências às medidas de sustentabilidade desenvolvidas pela companhia, chegando a oferecer ao passageiro nesses sítios um calculador de emissões associadas à realização da sua viagem. É de assinalar que, atendendo à informação disponibilizada, existe uma falha de comunicação interna em relação às ações associadas aos princípios de sustentabilidade, uma vez que as empresas de transporte aéreo apenas disponibilizam os relatórios anuais e não apresentam nenhuma informação de como a comunicação é realizada internamente. Embora, seja possível que essas empresas disponham de canais de comunicação interna, essa informação não é mencionada de forma clara para o público em geral. Como resultado desta primeira parte, é possível concluir que as companhias aéreas, especialmente as europeias, se encontram empenhadas em serem mais sustentáveis e tentam seguir as linhas de orientação definidas pelas diferentes entidades de regulação. É de realçar que em relação às companhias analisadas, a Qatar airways, umas das principais companhias da atualidade, não publica qualquer relatório de sustentabilidade e demonstra um claro desinteresse sobre o tema.

No âmbito da análise do caso de estudo, foram conduzidas duas entrevistas a responsáveis da TAP de forma a melhor perceber as ações no âmbito da sustentabilidade conduzidas na empresa e da forma como se procede à sua comunicação. A escolha do grupo TAP Portugal não foi casual. A TAP, companhia aérea nacional, foi uma das empresas de transporte aéreo do espaço europeia que foi pioneira que desenvolveu e promoveu o conceito de sustentabilidade no setor do transporte aéreo. A TAP publica relatórios de sustentabilidade desde 2006, tendo sido das primeiras a introduzir o programa de compensação de emissões de CO₂ e é a segunda empresa mundial mais eficiente no que respeita ao consumo de combustível, sendo hoje uma das empresas que lideram o processo de integração dos princípios de sustentabilidade na sua atividade. Naturalmente, que os esforços da TAP são enormes, mas serão bem comunicados? Qual é o papel das ações sustentáveis na construção da imagem da empresa? Terá a sustentabilidade impacte positivo na perceção da imagem da companhia por parte dos colaboradores e dos passageiros? Quais são os objetivos futuros de uma companhia aérea? Quão sustentável é o grupo TAP quando comparado com as outras grandes companhias europeias? Finalmente, poderá uma companhia aérea vir a ser completamente sustentável no futuro?

Estas questões iniciais foram desenvolvidas ao longo do processo de investigação. Para lhes responder, uma análise qualitativa de todos os relatórios de sustentabilidade da TAP foi realizada.

Foram ainda realizadas duas entrevistas a um ex-piloto e um gestor de frota da TAP que, no seu dia-dia, aplicam e desenvolvem os programas de redução de emissões de CO₂ através da redução de consumo de combustível e de eficiência na gestão de frota. Estas entrevistas, ajudaram a perceber as tendências de desenvolvimento das ações para a sustentabilidade do grupo TAP e permitiu perceber de que forma os conceitos de empresa sustentável é comunicada internamente.

Depois de apresentados os resultados da análise dos relatórios de sustentabilidade e das entrevistas, são discutidos os resultados e respondidas as questões levantadas nesta dissertação. A principal conclusão deste trabalho é a da confirmação do que é referido na discussão académica, que nos últimos anos as companhias de transporte aéreo têm vindo a desenvolver grandes esforços para se tornarem mais sustentáveis. Por outro lado, verifica-se que o grupo TAP, quando comparada com as outras companhias de transporte aéreo, se apresenta bastante avançada na realização de ações de promoção de sustentabilidade. Contudo, as ações mais visíveis são as relacionadas com a vertente ambiental e não tanto na componente económica, encontrando-se neste caso numa situação menos favorável do que

outras companhias. A dissertação também comprova que, apesar dos esforços, existe uma necessidade de desenvolver os processos de comunicação. Das entrevistas, foi possível identificar que a principal debilidade se relaciona com a fraca capacidade de comunicação na empresa. O estabelecimento de reuniões regulares, o desenvolvimento de relatórios internos e a motivação dos empregados da TAP foram apontados como elementos chave a desenvolver. Esta dissertação pretendeu contribuir para a discussão sobre a sustentabilidade e da sua relação com a atividade de transporte aéreo, a partir de uma visão holística da atividade. Este trabalho também apresenta como os princípios de sustentabilidade são comunicados, concluindo que há muito a fazer neste campo. As companhias necessitam de serem mais transparentes nas suas ações e comunicarem, com detalhe, os resultados. Como nota final, as grandes companhias extraeuropeias necessitam de serem mais ativas no campo da aplicação dos princípios de sustentabilidade. Como vimos na amostra, uma grande companhia não reporta nenhuma ação no âmbito da sustentabilidade.

Palavras-chave: sustentabilidade da aviação, transporte aéreo, relatórios de sustentabilidade, RSE, Grupo TAP

1. Introduction

Aviation industry plays a significant role in connecting people in this new millennium and can be well considered as a real WOLD WIDE WEB connecting different countries with networks of airlines and other supporting activities including ground services. Aviation industry also heavily contributes to economic development and according to IATA (the international air Transport association) aviation contributes \$2.4 trillion in GDP and provides 58 million jobs worldwide (IATA, 2016). The figures, according to IATA by 2034, are expected to rise to \$6 trillion in GDP and some 105 million jobs. This shows a tremendous potential in the aviation industry.

The benefits provided by the aviation industry do come at a cost, as fossil fuels are primary resource to drive the planes raising the concerns about the sustainability. Their direct emissions to the environment cannot be fully eliminated but can be reduced. According to CEO of IATA, the biggest challenge is the availability of the sustainable biofuels and their price. Much needs to be done but on a global scale as no single airline or government can do it alone and according to IATA, careful designing of infrastructure and also operations can greatly help in reducing emissions.

Sustainability, as considered by some, is a vague term and no concrete definition of sustainability exists. Sustainability originated from the Latin word *sustinere* meaning “to hold up” and was first introduced in the forestry literature for the “forest sustainability” in start of eighteen century. Later, sustainability has been defined in late 80’ as the “*Development that meets of the present without compromising the ability of future generations to meet those needs*” (Brundtland et al., 1987, p. 398). Since then we still understand it the same way. Three pillars that are in the core: economy, environment and society are the subject of focus since the creation of a sustainability concept (Thiele, 2013).

Airlines are under great pressure from governments and other regulatory bodies to report and implement sustainable practices and all major airlines regularly publish their annual sustainability reports to show the efforts and actions undertaken by them. There is a great deal of information in these annual sustainability reports on the economic, social and environmental actions taken and their effects. What lacking in the current literature on aviation industry is the holistic view on sustainable actions taken by different actors in industry and how those actions are communicated both within and to the customers? Are all airlines doing more of less the same things? Are there substantial differences in their

sustainability reporting? The present study intends to fill this gap by looking at some major airlines from different alliances and comparing their sustainability actions. Part of the study includes two interview conducted in TAP airlines to get better know how they deal with the sustainability. Insights from the interviews in TAP cannot be generalized to the whole industry but provides fruitful insights about their sustainability actions.

In the first part of the study, brief information on different airlines from different alliances is provided. Then I looked at the key activities covered by all those airlines on their websites. There are big differences in the activities pursued by the airlines as some talk in general about the sustainability issues and others provide even with tools to calculate the emissions. It is interesting to note that there is a lack of the communication of the sustainability within the company as most of the airlines just provide with the annual reports and there is no information how they communicate it to their internal employees. It might be the case that they have some internal systems to provide information to their employees but it is not clearly mentioned on their websites. Insights from this first part reveal that airlines especially in Europe are trying hard to be sustainable and follow the guidelines provided by the concerned authorities. It was interesting to see that Qatar airways which is one the leading airline does not publish their annual sustainability reports and clearly shows their lack of interest on this important issue.

In the case part of the thesis, two interviews were conducted at TAP to better understand the sustainability actions and their communications by one of the leading airline. The choice of a case was also not random – TAP Group, as a national Portuguese career, is one of the pioneering airlines on the European market that foster the sustainability concept. By publishing sustainability reports from 2006, introducing CO₂ carbon offset program and being a second fuel-efficient airline in the world, TAP takes the lead in the sustainability contest. Evidently, the efforts undertaken by TAP are great, but how well are they communicated? What is a sustainability role in building the company image? Does the sustainability have an impact on the company employees and passenger's perception? What are the future objectives of an airline? How sustainable it TAP Group comparing to other European leading airlines? And finally, can airline industry become fully sustainable in the future?

Those are the initial questions that have arose during the research process. To answer them, an in-depth qualitative analysis of all available TAP sustainability reports has been conducted.

For the purpose of the study I choose to interview one former board member and a fleet manager, who on the day-to-day basis deals with programs regarding reducing CO₂ emissions by improving fuel and fleet efficiency. The interviews helped to distinguish the main tendencies of TAP Group sustainability and gave an insight on how well sustainability is communicated within the company.

Presenting the results of report analysis and interviewed has been followed by discussion where the research questions has been analyzed and responded. The biggest conclusion of the study is a reaffirmation of the literature that says that increased efforts toward sustainability have been made in aviation in recent years. TAP Group, comparing to other analyzed careers, is very advanced in their sustainability achievements. However, those are visible mostly in environmental issues and as for the economic sustainability the airline is far behind others. The study also proved that although the efforts are great, the communication still need to be improved. The results of interviewed identified main struggles for the company sustainability that are related mostly to week corporate communication. Regular meetings, internal reporting and motivating TAP employees were identified as the key to improve.

The study contributes to the literature in sustainability in general and sustainability in aviation industry in particular by providing a holistic view of the industry. The study also provides in detail how sustainability is communicated and there is a clear need to do more in this regards. Companies need to be more transparent in their actions and provide in detail the actual output. As a small note, bigger airlines from outside EU also needs to be more active on this front as we see that one big airline does not report on its sustainability actions.

2. Literature review

“Sustainability should fascinate the hungry mind, satisfy the heart in search of meaningful life, draw people to it the way athletes are drawn to compete, the way artists are drawn to create, the way lovers are drawn to each other.”

Alan Atkisson

– Sustainability is Dead – Long Live Sustainability

The literature review will provide a theoretical setting for the study by introducing concepts related to the sustainability, sustainable development and air transport sustainability and sustainability reporting. Moreover economic, ecological and social issues of air transport sustainability will be discussed in details. The final part of the review will present the motivations and practices of sustainability reporting in airline industry.

2.1. Sustainability and sustainable development

Nowadays, the firms and organizations worldwide interchangeably use *Sustainability* and *sustainable development*. Although sustainable development is widely exercised and proclaimed, there are many misconceptions leading to inaccurate understanding of the subject (Keiner, 2006). The personal interests of organizations and firms on promoting sustainability led to large spectrum of interpretation of sustainability and sustainable development (Mebratu, 1998). To understand those concepts it is crucial to analyze their original understanding and sources.

The term sustainability originate from a Latin word: *sustinere* (“to hold up”) and was presumptively primary used by German forestry referring to “Forest Sustainability” in early eighteen century (Thiele, 2013, Weber-Blaschke et al., 2005). It addressed mainly to “careful” forest management model and was related to conservation and protection of forest area. That was the first use of the term sustainability that further appeared in different circumstances but similar content, mainly from ecological issue.

Since the beginning of late twenty century, the society started to realize that degradation of environment was increasing and could lead to a vast damages if we didn’t realize the importance of protecting our planet (Bartlett, 1994). The report “Our Common Future” of

the United Nations World Commission on Environment and Development popularly known as Brundtland Report was the first publication that focused on economic, social and political perspective of environmental concerns and was the first document that referred to sustainable development (Brundtland et al., 1987). The definition given by this report is still popular commonly cited by many scholars (Bartlett, 1994, Black, 2010, Elliott, 2012). The Brundtland Report defined sustainable development as:

“Development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Brundtland et al., 1987, p. 398).

The Brundtland Report also declared that equity and growth could be possible simultaneously along with the preservation of environment.

Few years later, the problem of sustainable development was discussed again at the largest international conference of that time “Earth Summit” in Rio de Janeiro (Roy, 2011, Elliott, 2012). This conference from 1992 aimed to identify future strategies for sustainable development and resulted in publishing “Agenda 21”. The document “Agenda 21” proposed a program to achieve sustainable development goals by the beginning of twenty-first century. The fixed program was established for all members of the United Nations and since then sustainable development became the key issue of environmental policy of world leading countries (Weber-Blaschke et al., 2005). Notwithstanding the importance of “Agenda 21”, the main achievement of conference was successful promotion of the sustainable development concept among participating entities (Mebratu, 1998). However, mutual agreements on sustainable strategies were not actually applied/implemented as many of the participants retracted from declared sustainable development responsibilities in the name of economic liberalism (Gorbachev, 2006).

Ten years later in 2002, during the World Summit on Sustainable Development that took place in Johannesburg, South Africa, the concept of sustainable development was reaffirmed and since then sprouted rapidly, becoming an objective of numerous governments and international companies (Robert et al., 2005). The World Summit on Sustainable Development not only reaffirmed the definition of sustainable development but also emphasis at its three dimensions: economic, social and environmental (Robert et al., 2005). According to the authors even though the three sustainable development pillars were identified, there

was no common accord on their detailed characteristics. The most recent summit on climate change took place in Paris at the end of 2015 (COP21, 2015). During 2015 United Nations Climate Change Conference many environmental-related topics were negotiated, including transportation and its impact on climate change. The 6th of December 2015 was announced as a Transport Day and attracted a wide range of industry representatives (2015). Discussions on the decarbonizing of transport sector by 2050 were the main topic. The debate resulted in the common agreement that increasing fuel efficiency, collaboration of companies within industry and investments in technology are compulsory to increase sustainability of mobility.

Many definitions and issues of sustainable development propose the holistic approach to reconcile the economic/profit, ecological/planet, social/people aspects appeared in the new millennium (see Figure 1.) and all of them agreed that it must be considered as an ideal that can be never reached (Thiele, 2013, Shiftan et al., 2012). The research showed that overlapping objectives are mutually supportive and highlight the importance of different spheres and goals (Elliott, 2012). There is also an highlight on dynamic character of sustainability that require constant shift of actions towards the different economic, social and environmental spheres according to the current problems (Weber-Blaschke et al., 2005). The literature insists on the fact that since the publication of Brundtland report, the world faced many changes and the sustainability development needs to adapt to this new reality by redefining its objectives by focusing more on ecological consequences of human activities as a priority (Sneddon et al., 2006). The same study also highlights that in order to overcome the barriers arising in 21st century from growing ecological degradation and social and economic inequalities, sustainable development should focus on open discussion, reporting and the transparency of decisions made by policy makers. Another study underline that there is an urge to consider the importance of preserving or changing if necessary natural, socio-economic and cultural capital in order to sustain the natural resources, economic welfare as well as individual and collective values (Renn, 2005).

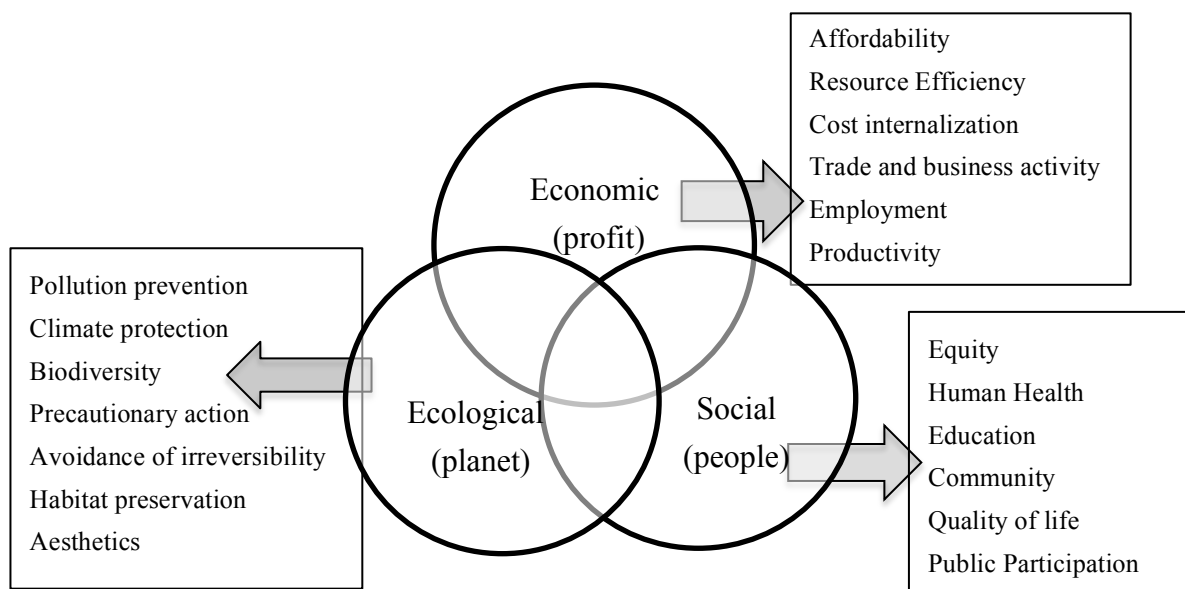


Figure 1. Sustainability issues

Source: author, adapted from: Shiftan et al.,2012, p.16 and Elliot, 2012

2.2. Sustainable transportation

With the increasing importance of sustainable development, sustainability has been applied to different sectors including transportation/mobility that implement the concept of sustainable development to the movement of people or goods (Greene, 2015, Mihyeon Jeon and Amekudzi, 2005). Although there is no common definition of sustainable mobility, the literature proposes several indicators of the concept. The Urban Transportation Council in 1996 proposes the following criteria of defining sustainable transport as one that:

“(1) limits emissions and waste within the area's ability to absorb, is powered by renewable energy sources, recycles its components, and minimized the use of land; (2) provides equitable access for people and their goods and helps achieve a healthy and desirable quality of life, in each generation; (3) is financially affordable, operates at maximum efficiency, and supports a vibrant economy”
(Urban Transportation Council, 1996).

The definition was further a subject of a discussion and the new explanation was suggested:

“[Sustainable transportation] (1) allows the basic access needs of individuals and societies to be met safely and in a manner consistent with human and ecosystem

health, and with equity within and between generations; (2) is affordable, operates efficiently, offers choice of transport mode, and supports a vibrant economy, (3) limits emissions and waste within the planet's ability to absorb them, minimizes consumption of non-renewable resources, limits consumption of renewable resources to the sustainable yield level, reuses and recycles its components, and minimizes the use of land and the production of noise” (The Center for Sustainable Transportation, 2005)

This definition has been subject of a discussion. The supporting argument was the comprehensive and transparent its nature, however it had been criticized by being too politically influenced and lacking of rigor (Gilbert, 2006).

The literature proposes many alike definitions that commonly agree on the fact that the progress towards sustainable mobility must arise on three areas, which a higher focus on environment issues and less on social and economic aspects (Mihyeon Jeon and Amekudzi, 2005, Shiftan et al., 2012). Beside those three common areas of sustainable transportation used in all of the frameworks, additional factors were proposed by research. The study of Amiril, Nawawi, Takim, & Latif, 2014, proposed a more complex framework by adding Engineering/Resource utilization and Project Management/Administration as additional aspects of sustainable mobility. However, this framework was not largely applied to the industry.

While there are many positive effects of transport industry as contribution to globalization and economic dynamics (Shiftan et al., 2012), it has been recognized more than decade ago that transport has also an great number harmful external effects on ecology and dangerous impact on environment (see Figure 2) (Greene and Wegener, 1997). Those external effects has been identified as the biggest concern of sustainable mobility (Perrels et al., 2008). More than 26% of overall dioxide emissions are caused by transport and the trend is still growing (Chapman, 2007). Taking into account, that the transport energy use is increasing about 2% per year, the estimated energy use is estimated to be 80% higher than currently by 2030 (Kahn Ribeiro et al., 2007). Therefore, global warming or the greenhouse effect caused by carbon dioxide emissions has been identified as the biggest problem resulting from non-sustainability of transportation (Black, 2010). As a solution, many technological innovations

appeared in order to reduce the pollution. However, according to a great body of research main challenge for the transport system is the change in the fuel technology and energy resources so that transportation will not be dependent from fossil fuels (Black, 2010, Perrels et al., 2008). Developing alternative energy sources remains the biggest long-term challenge of transportation towards sustainability, but taking into consideration the difficulties of this task, Chapman, 2007, identified that it is crucial to focus rather on policies regarding taxes, regulations and behavioral changes in order to control the CO₂ emissions to provide more sustainable transport. Alongside with climate change, there are several other negative impacts of transportation resulting from transportation including: noise, congested traffic, collisions, chemical contamination and change of landscape (Perrels et al., 2008). There is an ongoing tension that results from the conflict of governments accelerating economic growth by supporting mobility and pressing need for undertaking actions to stop environmental degradation caused by road transport, aviation and shipping (Budd et al., 2014).

Road transport	Aviation	Shipping
<ul style="list-style-type: none"> • CO₂ emissions (20% of EU total emissions of carbon dioxide come from road transport) • Land use (degradation of landscape and biodiversity) • Emission from dust emanating from vehicles • Soil contamination resulting from fuel and oil spills from motor vehicles 	<ul style="list-style-type: none"> • Air pollution (greenhouse gas emissions) • Land taken for airport infrastructure • Noise around airports • Waste resulting from aircraft maintenance, airport activity and onboard service 	<ul style="list-style-type: none"> • Nitrogen oxides emissions that contribute to air pollution • Waste pollution: sewage, graywater, bilge water • Oil spills • Release of ballast water • Land taken for infrastructure • Modification of water system during port construction

Figure 2. Major environmental impacts of transportation

Source: author, adapted from: Cowper-Smith & de Grosbois, 2011; Greene & Wegener, 1997; Tahzib & Zvijáková

2.3. Air transport sustainability

Without a doubt, air transport industry with its short but dynamic history, is one of the most important industries that bring undeniable social and economic benefits. With the improvement of aviation infrastructure in mid-70's by introducing wide-body jets, using air transport to travel became much more affordable and the air industry boosted rapidly (Budd et al., 2014). The annual forecast (Global Market Forecast) published by Airbus presents the main drivers responsible for air traffic growth which are: economic development, urbanization, tourism and migration, rise of middle class and bi-lateral air service agreements (Airbus, 2015). With this rapid growth of the air industry we can observe that the increase in number of passengers occurred since the beginning of aviation industry. In 1914 the number of passengers traveling by plane was little over 1000 while in 2014 around 3,3 thousand million people decided to travel in air (IATA, 2014). This trend of increasing number of passengers is still growing with estimated growth rate for 4.6% per annum between now and 2034 (Airbus, 2015). Only in 2015, air transport is estimated to transport 3,5 thousand million passengers and around 50 million tons of cargo (IATA, 2014). Along with this rapid growth of number of passengers and profitability, the industry started to recognize its negative consequences and impacts on the environment. With this context of industry growth it became evident that environmental challenges are one of the key issues to deal for the aviation industry and many publications started to appear presenting the increasing concern about sustainability issues from environmental, economic and social perspective.

2.3.1. Environmental impacts of aviation and the actions towards reducing their negative impacts

The great body of research focused on the sustainability in the aviation industry with the highlight on environmental impacts of aviation (Alonso et al., 2014, Baughcum et al., 1999, Black, 2010, Chapman, 2007, Greene and Wegener, 1997, Morrell, 2009). The environmental damage caused by aviation is the main concern as the increasing growth of the industry caused numerous environmental effects. It is estimated that the damages related to the environmental effects of aviation are greater than 1 thousand million USD per annum for the noise pollution and up to 10 times higher for the climate change resulting from greenhouse gases (GHG) emissions (Schäfer and Waitz, 2014). The negative impacts of air transportation on environmental level are immense concern of the aviation sustainable development. Efforts concerning CO₂ emissions drop, reduction of waste and water pollution, climate change are

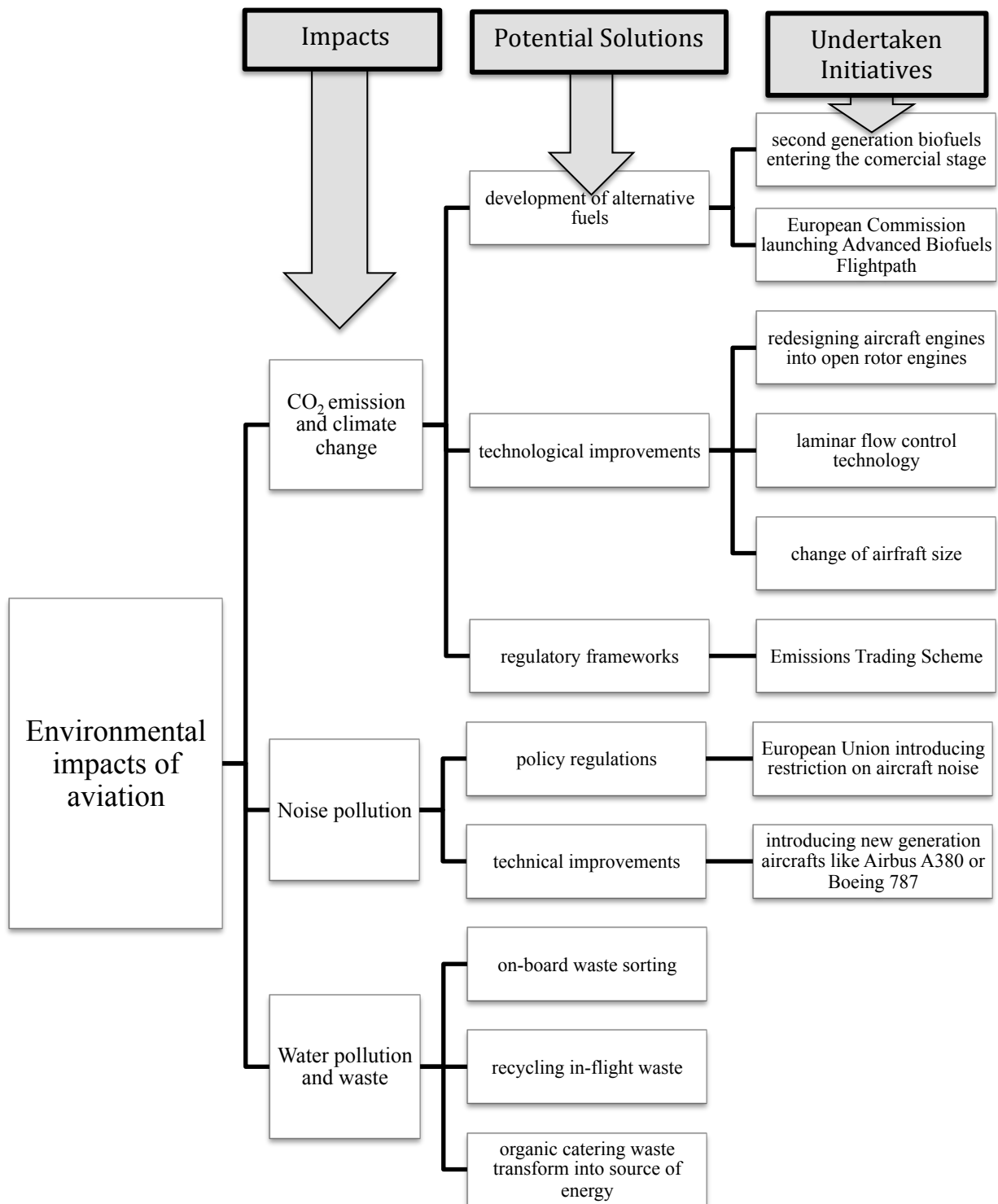


Figure 3. Identified impacts, solutions and initiatives to minimize environmental impacts of aviation

Source: author, adapted from: Anger, 2010; El-Mobaidh, Razek Taha, & Lassheen, 2006; European Commission, 2011, 2015a; European Parliament, 2002; Köhler, Walz, Marscheder-Weidemann, & Thedieck, 2014; Lucy & Thomas, 2013.

the biggest challenges to industry sustainable development. Literature proposes several solutions in order to mitigate the negative effects of aviation on environment. Over the past few years, a number of initiatives on different level were undertaken to reduce the environmental damage. An overview of impacts, potential solutions and undertaken actions based on literature review is systematized in the Figure 3. and followed by comprehensive problem description.

2.3.1.1. CO₂ emissions, climate change and policies regarding the reduction of GHGs emitted by aviation

Central issues discussed by scholars regarding air transport sustainability are GHG emissions. The main area of study on GHG emissions examines their effects as the climate change, their possible reduction by implementing adequate policies or by the development of alternative fuels (Olsthoorn, 2001, Nair and Paulose, 2014, Gegg et al., 2014, Anger, 2010, Morrell, 2009). The estimated percentage of number of emissions produced by aviation (Alonso et al., 2014) varies between different studies. According to one research body the aviation consumes around 13% of fossil fuels used for transport with the estimated forecast of growth around 3-4% per year (Kahn Ribeiro et al., 2007). Another study shows that the amount of CO₂ emitted by the air transportation may constitute more than 15% of all CO₂ emissions by 2050 (Olsthoorn, 2001, Baughcum et al., 1999). The literature also highlights that despite that those numbers are already alarming, the contribution of CO₂ emissions to the climate change is even larger than showed in forecasts, mainly because of the combustion of fuels at high-altitudes (Olsthoorn, 2001, Lucy and Thomas, 2013). What is more, even if the current CO₂ emissions emitted by aviation in EU are not extremely high, with the rapid growth of aviation industry that currently occurs they will become a serious concern and makes aviation the most unsustainable mode of transport (Anger, 2010). Consequently air transport cannot approach long-term sustainability as long as the alternative fuel or technological improvements will be developed (Black, 2010, Budd et al., 2014) or as long as the emissions will be reduced to certain level by policies interventions (Anger, 2010).

Currently the main alternative for fossil-based fuel is the biofuel that is already technically feasible and successfully examined during test flight by many airlines including KLM, Virgin Atlantic or Air new Zeland (Gegg et al., 2014, Lucy and Thomas, 2013). The biofuels are ready to enter the commercial stage and replace fossil-fuel in the future. The most prominent are 2nd generation biofuels, that, in comparing to fossil fuels have a capacity to noticeably reduce GHG emissions (Köhler et al., 2014). Köhler et al. distinguish three leaders among

different markets to develop 2nd generation biofuel: Brazil, Germany and USA. However the perspective of implementing biofuels in commercial aviation is not so optimistic. The study of Gegg et al. (2014), demonstrates that implications of biofuels into airline industry are facing many complex challenges like high cost, low funding and a lack of policy support and fuel consistency. Facing those constraints, mainly the high cost of production, the aviation biofuels will not have the significant market share in the aviation industry in the near future. Nevertheless, beside the use of biofuels, there are more possibilities that can contribute to the drop of CO₂ emissions and improve air industry environmental performance. The advancement in the technology led to the possibility of redesigning aircraft engines into open rotor engines that can reduce fuel consumption up to 30% (Lucy and Thomas, 2013). Another possibility presented in the same study is the construction of wings that use laminar flow control technology that sucks the turbulent air into aircraft by the small holes providing smooth layer of air close to the wing surface and therefore reduce fuel consumption up to 10%. However, those alternative technologies have been criticized by authors for lack of safety guarantee and high production costs. Another already implemented solution to reduce CO₂ emissions in airline industry is change of aircraft size. It has been proved that there is a strong relationship between aircraft size and fuel efficiency (Lucy and Thomas, 2013, Morrell, 2009). The most efficient are large single aisle aircraft that offer high seat density and can possibly contribute to fuel efficiency gains on short and medium routes (Morrell, 2009).

Furthermore policy makers recognize new technologies and alternative fuels developments as a possible solution to reduce GHG emissions. In the publication of European Commission we find that alternative fuels have a significant importance in reducing GHG emissions from air transportation (European Commission, 2015b). The same publication identifies the use of alternative fuels in the transportation sector as one of their main challenges. The development of alternative fuels, according to European Commission, will largely contribute to a cleaner environment but also to the industrial growth, job opportunities and increased competitiveness. Beside the recognition of new technologies, the governments also try to put limitations and implement actions to reduce climate change. In the aviation sector, there are several existing initiatives that aim to reduce environmental impacts of aviation. The perfect example of those initiatives is European Advanced Biofuels Flightpath launched by European Commission. This program is a collaboration of several European airlines and leading European biofuel producers. The aim of this initiative is to increase the production and

consumption of biofuel for aviation to 2 million tonnes (European Commission, 2011). However the literature highlights that besides the projects on developing and implementing the biofuel technologies there is also a need of regulatory frameworks in order to control and further reduce the CO₂ emissions (Scheelhaase and Grimme, 2007). In the study of Scheelhaase and Grimme, 2007, we find that due to the global character of aviation industry it is difficult to implement coordinated regulations regarding CO₂ emissions and therefore, the regulations needs to be made with coordination on international level.

The recent implementation of aviation into emissions trading scheme (ETS) is one of the attempt to provide regulatory framework that sets the allowance of GHGs emissions up to the certain level. The EU ETS is the first cross-border ETS covering many industry sectors, including commercial aviation operating within European Union member states (Anger, 2010). The EU ETS controls the CO₂ emissions by setting the cap of allowance. One cap allows to emit one tone of CO₂. The program is initially designed for years 2014 – 2020 and the cap of allowance will reduce each year. The allowances for each airline are based on their previous CO₂ emissions and are allocated each year in proportion to the airlines activities (European Parliament, 2008). The EU ETS allocates most of the caps to the airline but also provides a reserve for the new airlines that enters the market. According to the directive issued by European Parliament this kind of initiative allows in the long term to reduce the emissions by 5% to previous years. The series of studies analyzed the effects of including aviation in EU ETS (Anger, 2010, Anger and Köhler, 2010, Vespermann and Wald, 2011). It has been proved that the EU ETS may bring positive impacts that can result in a visible reduction of the CO₂ emissions. The reduction is estimated to be less up to 7,4% by 2020 (Anger, 2010). However, different scenario shows that effects of including aviation in EU ETS won't be that significant as the CO₂ emissions will reduce by maximum 3,8% (Anger and Köhler, 2010). Another study proposed that there is a need for more actions of policy makers in order to implement more strict limitations (Vespermann and Wald, 2011). This study suggests that only the strict limitations can radically decline the CO₂ emissions produced by aviation.

2.3.1.2. Noise pollution

The noise of aircraft produced by landing and taking-off is after the climate change one of the biggest environmental concern and the most quickly perceived side-effect of aviation (Upham et al., 2003, Hume et al., 2003, Wolfe et al., 2014). Most of the studies focus on the aircraft noise side effects on the communities living close to the airports (Hume et al., 2003).

The increasing consciousness about the negative effects of aircraft noise on the health may lead on the local level to limitation in the airport growth which on the longer term may constrain the development of airline industry (Paul and Andrew, 2005).

The growing concern about the noise pollution led to several regulations attempts. In previous years, aircraft noise has become a subject of policies, mainly from European Commission that imposed restrictions on the noise-related issues. One of those regulations is the directive of European Commission regarding aircraft noise. This directive is based on international Balance Approach proposed by the International Civil Aviation Organization which primary aims are:

“Making aeroplanes quieter by setting noise standards; managing the land around airports in a sustainable way; adapting operational procedures to reduce the noise impact on the ground; and, if required, introducing operating restrictions”

(European Parliament, 2002).

It has been identified that not only policy restrictions but also technological improvements are essential to contribute to the reduction of the aircraft noise. From the past 50 years, the noise reduction due to the new aircraft use improved for 70% and the development of new aircraft like Airbus A380 or Boeing 787 are the examples of the aircraft that can operate much quieter (European Commission, 2015a).

2.3.1.3. Water pollution and waste

Many activities associated with aviation like terminal services, aircraft de-icing, aircraft conservation or refuelling are contributing to the water pollution and can potentially result in serious ground contaminations in a form of contamination of the ground water (Paul and Andrew, 2005). Beside the water pollution, the waste management is another concern in the environmental sustainability of aviation. According to the study of Li, Poon, Lee, Chung, & Luk, 2003, the in-flight waste is estimated up to 500 kg with the paper as the major component.

The significance of the problem has been recognized and several solutions were proposed to reduce the amount of produced waste. Li, Poon, Lee, Chung, & Luk, 2003 proposes programs regarding on-board sorting and further recycling in-flight waste as a possible solution for reducing it up to 58%. Another research proposes transforming the organic catering waste into

source of energy as a possible solution of sustainable practice to reduce waste (El-Mobaidh et al., 2006).

2.3.2. Social impacts of aviation

Comparing with the environmental effects of aviation, the social impacts are more in favor of the air transport industry. According to P. Upham, 2013, accessibility is its main social benefit as the air transportation can quickly respond to medical evacuation or the humanitarian relief. Moreover, in the same study we learn that the aviation due to its specific characteristics is able to transform the world into the global village, providing connections in the most remote areas and help to develop their economy. The access to the air transport permits not only to make connections to areas unreachable by other means of transport but also allows exploring cultural heritage of the remote areas. According to the report published International Air Transport Association (IATA) the aviation industry provides people with the cultural experience and allows benefiting from the leisure activities in the countless destinations across the globe (IATA, 2015). The Air Transport Action Group (ATAG) highlight in their publication that by promoting the tourism, aviation industry also reduces poverty and improve people living standards by providing job and generating economic growth (ATAG, 2005).

Despite the various social benefits listed above, there is a growing concern about the safety issues. In previous years the aviation industry experiences several catastrophes that resulted in the disruption of the safe image of air transport. Tony Tyler, CEO of IATA group underlines that flying is still the most safety transportation way with the lowest accidents chances. (Samantha Shankman, 2014). However he admits that the previous accidents of the flights MH 17 and MH 370 operated by Malasia Airlines proved that there should be more efforts made by governments and airlines regarding the safety standards.

The recent research highlights that security is the top priority to ensure sustainability of air transport (Spence et al., 2015). The study suggested the implementation international safety standards to all member states of ICAO. It also finds that there is a connection between the states compliance with the international standards of safety and the number of commercial airlines fatalities, where the chance of occurring fatalities are lower for the states that implements ICAO safety standards.

2.3.3. Economic Impacts of aviation

Transportation industry, including aviation as its big part, is generally perceived as strongly contributing to the economic development (Kahn Ribeiro et al., 2007). The report of ATAG, 2014, demonstrates the high contribution of aviation to the economic growth and sustainable development in their report. Their study revealed that aviation industry supports more than 50 million job worldwide. Moreover it shows that the aviation industry generate 606 thousand million USD in direct and 697 thousand million USD in indirect Gross domestic product (GDP) impact. The same report also highlight that in comparison to the GDP contribution of other sectors, the aviation is larger than pharmaceuticals, food and beverage or automotive industry. Another benefit presented is the indirect contribution to the tourism industry. ATAG emphasize on the fact that aviation plays an important economic role in supporting tourism sector as the half of international tourists chooses air transport to reach their holiday destination. Taking into consideration that the tourism is one of the major contributors to the global economy and the air transport plays a vital role in the tourism industry we can see the significant economic impact of aviation there. ATAG highlights that significant economic impacts are visible in contribution into tourism employment. IATA, 2007 highlights the other aspect of contribution of aviation to global economic development which is a country's integration into the global economy (IATA, 2007). Giving an example of aviation investments in developing countries like Kenya, Cambodia, Jordan, El Salvador and Jamaica their study proves the connection between the boost of economic growth and increased connectivity of those countries to the international air transport network. That shows that the countries on the low economic stage can benefit from aviation by connecting the remote areas with the rest of the world.

The European Commission in its Annual Analyses of EU Air Transport Market 2013 strongly connects the level of GDP of the countries with their demand for air travel. Basing on the Regional Groupings GDP forecast of The International Monetary Funds (IMF) the European Commission states that with the growth of GDP, the air traffic demand will also increase. Herby we can conclude that the aviation industry is highly sustainable from the economic point of view (European Commission, 2015a).

2.4. Practices and motivations of sustainability reporting

In order to provide transparency on environmental, social and economic issues, companies worldwide publish sustainability reports to clarify their actions towards sustainable

development. There are various motivations for companies to undertake necessary actions in order to mitigate their negative environmental impacts. The study of Bansal & Roth, 2000, proposed three main motivations of companies undertaking the sustainable initiatives. First, the companies try to increase their competitiveness. By undertaking green initiatives and environmental actions they expect to improve their long-term gains. Second, they are driven by the motive of legitimation which refers to improvement of actions that need to meet certain regulations or norms. It is important to highlight that legitimation motives are often associated with the companies concern of bearing the consequences. For instance, if companies do not meet certain environmental standards it can result in bad publicity or legal penalties imposed by regulatory bodies. Another identified motive is ecological responsibility resulting from a concern and sense of obligation towards society. Driven by various motivations, the companies started to recognize the importance of communicating their efforts by publishing Corporate Social Responsibility (CSR) and Sustainability Reports (Gray and Milne, 2002). The literature on sustainability reporting doesn't provide the one universal definition of what sustainability reporting is, however the different definitions proposed are alike. Daub, 2007 defined sustainability reporting as the one that:

“contains qualitative and quantitative information on the extent to which the company has managed to improve its economic, environmental and social effectiveness and efficiency in the reporting period and integrate these aspects in a sustainability management system” (p. 76)

The similar definition was proposed by the World Business Council for Sustainable Development (WBCSD):

“We define sustainable development reports as public reports by companies to provide internal and external stakeholders with a picture of corporate position and activities on economic, environmental and social dimensions. In short, such reports attempt to describe the company's contribution toward sustainable development”. (p. 7)

In both of those definitions we find that sustainability reporting is organized around the “triple bottom line” (TBL) approach developed in late 90' by Elkington (Elkington, 1997).

This approach was the first attempt to provide some framework on sustainability accounting. This form of report takes into the account economic, environmental and social dimensions of companies performance that their should deliver to their stakeholders by including them in their accounting practices (Elkington, 1997). Elkington highlights on publication that sustainability reporting is a growing field and there is a need for global approaches to reporting sustainability. He identified TBL as the most efficient approach as it provides clear image of sustainability footprint of the companies and can develop their competitive advantage. According to Gray & Milne, 2002, the main advantage of in TBL reporting is the importance given to environmental statements that were not in reporting practices before. However in the same study we find that TBL is only a small part of overall accountability practices of companies and will never reach equal weight as for example financial reporting. According to the image of sustainability reports based on TBL approach is not complete. To report sustainability in a way to obtain the full image of sustainability contributions of a company the study proposes a development of sustainability report that should contain:

“complex analysis of the organisation’s interactions with ecological systems, resources, habitats and societies, and interpret this in the light of all other organisations’ past and present impacts on those same systems”. (p. 51)

The study suggests that the sustainability reports are not complex enough and focus too much on promoting the green image. In the work of Gray & Milne, 2002, it is highlighted that the sustainability reports should concentrate on revealing their full sustainability footprint, rather than focusing on presentation of selected green initiatives. Few bodies for sustainability reporting and frameworks appeared as a possible answer to this problem of how sustainability reporting should look like to be more credible and systematized (Lamberton, 2005). Within several possible frameworks, the most used by companies was developed in 1991 Global Reporting Initiative (GRI) (Brown et al., 2009). GRI allows companies to demonstrate their sustainable goals and initiatives in the harmonized and clear way. However, the study of Brown et al. suggest that despite its popularity among the firms GRI, as well as other frameworks allowing to construct reports on the basis of standardized information, will not have enough power to impact the society.

2.5. Air transport sustainability – credibility of airline sustainability reports and the communication between airlines and passengers

Since late 90' of XX century airlines like Lufthansa and KLM recognized the importance of sustainability development and voluntarily started to publish corporate sustainability reports (PricewaterCoopers, 2011). This trend, especially in the previous years has been rapidly growing with more airlines shifted from reporting on environmental performance to sustainability reporting. These airlines are also trying to minimize the ecological degradation and maximize economic growth and social impacts (Cowper-Smith and de Grosbois, 2011). As demonstrated in the literature review, reporting sustainability is nowadays a practice that allows presenting the position of companies in sustainability development. As well as in other industries, also in aviation it became necessary to take into account the ecological, social and economic impacts. Aviation industry started to communicate the efforts and practices towards sustainable development in order to present the airlines sustainable image. This shift towards sustainability communication had been recognized as one of the core airlines business activities that should be implemented next to the integration in the alliances and implementation of low-cost factors (Maik, 2013). Between 2009 and 2011 we can observe 15% growth in number of airlines reporting on sustainability (PricewaterCoopers, 2011).

Airlines tend to focus more on the environmental aspects of the sustainability reporting, with increased focus on reduction of CO₂ emissions and less on social and economic impacts of aviation. The study of Cowper-Smith & de Grosbois, 2011, highlights that the sustainability reporting in the airline industry is relatively new trend and little research had been published on this topic. The research provided an analysis of annual CRS and sustainability reports of members of Star Alliance, One World and SkyTeam. Authors examined the scope of corporate social responsibility initiatives undertaken by member airlines and their reporting practices. Comparing 14 different CSR and sustainability reports the study demonstrated that although there is a high level of commitments for the major sustainability goals, the number of tangible initiatives reported by airlines to achieve those goals is low. The research demonstrates that the airlines tend to report on their sustainability goals, rather than on initiatives. The point was also made on the diversity of reported content and incapability of reports, as the airlines that creates sustainability reports use different bodies and herby there is no common regulation of content.

According to the study presented by PricewaterCoopers, 2011, the recently growing trend in sustainability reporting in airline sector also results from the privatization of government-owned airlines that faces new challenges and need to gain trust of private investors. The same study shows that another reason of integrating sustainability reporting into airlines overall strategy is the fact that the clear image of green practices reinforces the airline perception. The research of Lynes & Andrachuk, 2018, also analyzes the motivation of airlines commitments towards CSR and sustainable practices examining Scandinavian Airlines as a case. The research proved a correlation between CSR/sustainability commitments and the culture, general values and ideology of the company. So in this case, the reporting not only demonstrates the sustainable goals and initiatives, but also gives an image of the airline values.

Several studies had been published examining the airline sustainability impact on the purchasing decisions of passengers as well as on the relation between the sustainability and the passengers' perception of an airline (van Birgelen et al., 2011, Ryley et al., 2013, Hagmann et al., 2015). One of the study give an insight on carbon offsetting service that is provided by several airlines and encourage passengers to compensate the environmental damage of their (van Birgelen et al., 2011). This study examined the passenger perception of those service and the willingness-to-compensate the CO₂ emissions. Using the online survey the paper demonstrates that the awareness of negative impacts of aviation on climate change increases the passengers' willing-to-compensate for the environmental damage. The authors argued eco-friendly lifestyle of passengers has the positive impact of on their willingness-to-compensate for CO₂ emissions. However, different research characterized carbon offset as having *misleading* character and used mostly as marketing tools that gives consumers an impression that they contribute to the environment protection (Polonsky et al., 2010). The study criticized the fact that customers do not get enough information from the company about for example the time of the improvements (if the carbon offset purchased in the time of buying a ticket will result in the effect immediately or in the future). The research refers to a common practice of planting new forests that are the practice of many airlines, as an offset practice. In fact, the time needed for the tree to reach maturity is very long so the full effect of the carbon offset will be achieved in a long time. In conclusion, although there are visible benefits from carbon offset programs and they have positive impacts on passengers, carbon offset can be viewed at some point as a greenwashing practice of a company.

The study of Ryley et al., 2013, focuses on the passenger perception of sustainability and the extent to which they are willing to change their travel habits due to sustainability concerns. By conducting the survey based on questionnaire in UK and US the authors collected data that allowed examining the scope of the importance of airline sustainability among passengers. The results showed the importance of socio-economic impacts on passenger attitudes towards sustainability where for instance women and young travelers value the sustainability more than other segments. Moreover, authors demonstrated that despite of high awareness of sustainability issues and impact of aviation on environment, passengers are not willing to pay more for their tickets or reduce their travel.

The further research on this topic conducted by Hangmann et al., 2015, demonstrated the contrary results, based on questionnaire has been conducted in Dusseldorf Airport. The questions were asked to passengers traveling by different type of airlines including members of alliance like Oneworld, Sky team and Star Alliance, Low Cost Carriers (LCC) or charter carrier. The aim of the study was to measure the relation between of airlines image and the airline choice. The result of the questionnaire showed that although the green image of airlines is not the main criteria while booking their tickets, passengers are usually willing to pay more to reduce the environmental damage. The questionnaire analysis showed that around half of the interviewed passengers were willing to pay up to 10% more for a flight with lower CO₂ emission level. The same study also focused on the adequacy of the green image perception by passengers and the real scope of airline green practices. It has been showed that in general the passengers consider charter flights and members of European alliances as most sustainable whereas LCC are generally having a bad environmental image. Among the analyzed airlines Lufthansa was considered as having the most environmentally friendly. The important point made by authors is that the passenger perception of environmental friendliness of the airlines is not equivalent to the actual sustainability rankings. This statement made by authors showed that there is a lack of clear sustainability reporting practices among airlines and that the transparent reporting would allow building the clear and coherent vision of their sustainable efforts. The efforts toward more transparent sustainability report would also allow airlines to differentiate themselves competitors and increase the profitability. Additionally, the study of Hagmann et al., 2015, highlights that in order to improve the passenger perception of the green image of airline and increase their awareness on ecological issues the proper marketing actions are necessary.

Furthermore PricewaterCoopers, 2011, also reported the low quality of the sustainability reporting. The study of PwC shows that the current sustainability reports are not very strong as they use different reporting bodies and are not the subject of official regulations. Cowper-Smith & de Grosbois, 2011, who demonstrated in their paper that there is a considerable variation among the sustainability reports of different airlines, drew the same conclusion. Due to this reason not only the image they give to passengers is unclear but also that it is difficult to compare the airlines sustainability and evaluate the real extent of involvement in green practices.

3. Case study – company background

The literature review presented the sustainability transportation concept with particular importance given to airline industry and sustainability reporting. This part of the work presents an overview of activity of the airline selected as a case study. It will give an insight on company history, structure, development and challenges it faces nowadays. It will present the reason of company privatization and future mission. Moreover, the chapter will briefly portray sustainability origins and initiatives of TAP Group.

3.1. History of the airline until the start of new millennium

TAP dates their beginning for 14 March 1945 when Humberto Delgado, former Director of the Civil Aviation Office, created the airline. In the first years of activity it acquired its first 21 seats aircraft Dakota DC3s and launched its first route Lisbon-Madrid. The same year TAP introduced a twelve-stop colonial service linking Lisbon to the African countries.

Since its early beginnings, TAP was developing rapidly by adding new destinations and modernizing its aircraft. By the end of 40' the airline launched regular flights to several European destinations such as Paris, London or Seville. During the 50' of XX century, the airline activity increased. TAP changed from public service to public limited liability company. In those years' company hired more than thousand employers and the total duration of the flights exceeded 10.000 hours. What is more, TAP made test flight to Rio de Janeiro and launched new long-distance routes to Africa using the four-engine aircraft Lockheed L-1049. After 18 years from the establishment of the airline, TAP reached the number of one million passengers in 1964.

In the 70' innovations continued with the same rapidity. TAP modernized its aircraft by purchasing its first Boeing 747-200s and established routes on more than 40 destinations. In those times of 25 April Revolution, TAP undergone significant changes like computerization of their reservation system or load control. At this time, the company also has been turned to the national airline and became stated-owned. In 1979 it has been renamed from Transportes Aéreos Portugeses to TAP Air Portugal. The changes also included TAP Air Portugal introduction of new uniforms, logo and corporate colors. The privatization had a big impact on the airline image. In 1991 TAP is transformed in a limited liability most public capital company and continued its growth and opened new cargo terminal in Lisbon airport, created Executive Class and added new routes. Another changes concerned the introduction of in-flight magazine as well as automatic fare calculation and ticket issuing system.

In the later period of activity, the airline had experienced the technological improvement and 90' was a time dedicated to modernization. In the same period TAP Air Portugal added number of new routes mainly operating from Porto and launched their website. By the end of the XX century the number of passengers who traveled by TAP reached five million and the airline received several awards and certificates for example Portugal Turismo e Atualidade award or maintenance and engineering certification from the Brazilian Civil Aviation Authority and US Federal Aviation Administration.

3.2. Airline activity from the beginning of XXI century until 2009

The start of the new millennium was lucrative for the airline. For the first time in the history of TAP, it achieved the profit of several million euros and upgraded their fleet to 40 aircrafts. What is also important, in those years the airline had a significant growth in the number of passengers with the total increase of 57,1% from 2001 to 2009 (see Figure 4). TAP also changed again its company image, underlining their modern spirit. At the very beginning of XXI century, in 2000, airline implemented the project “Modernization of the Organization” that reorganized its structure into Airline, Handling and Maintenance units. The same year the charter company Yes Linhas Aéreas was created in the partnership with Abreu Viagens. TAP Group owned 75% of a company while Abreu Viagens the rest 25%. Later in 2004, the Yes - Linhas Aéreas Charter changed its owner to OMNI aviation group that renamed it into White Airways. The partnership was also made with privately owned PGA-Portugália that operated in domestic routes.

Additionally, the company renamed again into TAP Portugal. 14 of March 2005 was a significant day for the airline as it was not only its 60 anniversary but also the day of joining the leading airline network Star Alliance which is the oldest and the most awarded alliance in the aviation industry.

At that time TAP received many significant awards such as the Best-Branding and Best-Rebranding in the Freddie Awards in 2006. The airline was also awarded for being the safest in the world and severally received “Best Airline” award. Environmental efforts of the airline resulted in the prize “Planet Earth” from UNESCO. In those years the airline not only changed its image and received many awards but also broke its many records. One of them is the amount of 47 weekly flights to Brazil and another is transporting 33,464 passengers in one day.

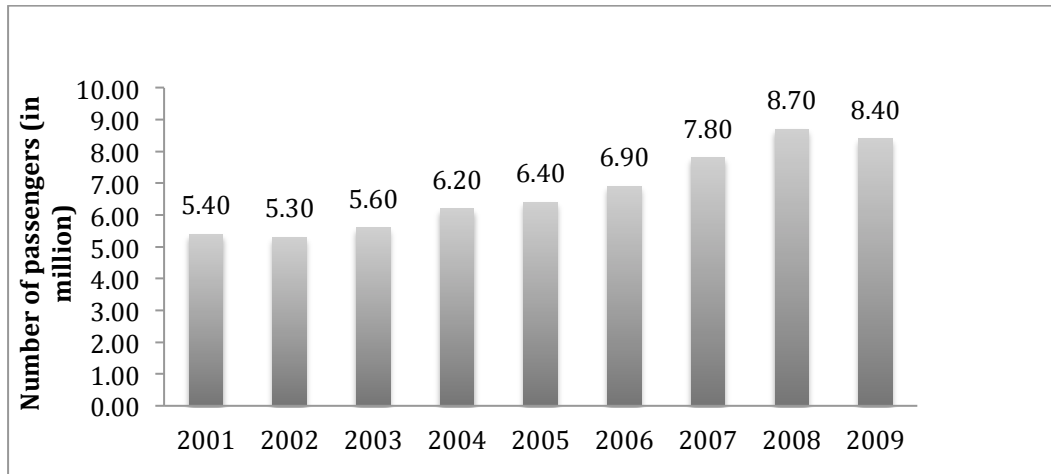


Figure 4. Number of passengers 2001-2009

Source: (Corporate Governance and Sustainability Report, 2011; Sustainability Report 2012, 2013, 2014, 2015)

3.3. After 2010 to present – the financial crisis and privatization

In previous years beside many innovations and still growing number of passengers (see Figure 5) the airline suffered from financial losses (see Figure 6). The year of 2010 was marked with the crisis caused by flight interruption caused by volcano ashes cloud. Also increasing fuel prices contributed to the crisis and total revenue resulted in loss in operating net income (TAP Group, 2011). The financial crisis continued in 2011. Growing competition from LCC and fuel price were the main reasons for low airline profitability. Rapid growth of fuel price reached the 37% incensement in one year caused big disturbances in financial stability of an airline. By the end of 2011 the net loss reached over 75 million EUR. In 2012 the fuel prices sustained high and the competition from LCC was higher than ever before. That year was the start of the preparation for the privatization process. However, despite of interests of the process didn't meet the necessary conditions to finalize the privatization. 2012 was again the year marked by the loss of little over 30 million EUR. The financial result of the company was better comparing to 2001 mainly because of cost-cutting initiatives, higher operating income and increased passenger traffic demand.

The next year was again financially better for the company, but still with visible financial loss. On the one hand Portugal experienced economic crisis, which resulted in a loss of domestic passengers but the other hand the popularity of Portugal as tourism destination grew rapidly in 2013 and that resulted in high number of flights, especially in the summer season. The financial efficiency of TAP Group improved visibly reaching the net loose of less than 6 thousand EUR.

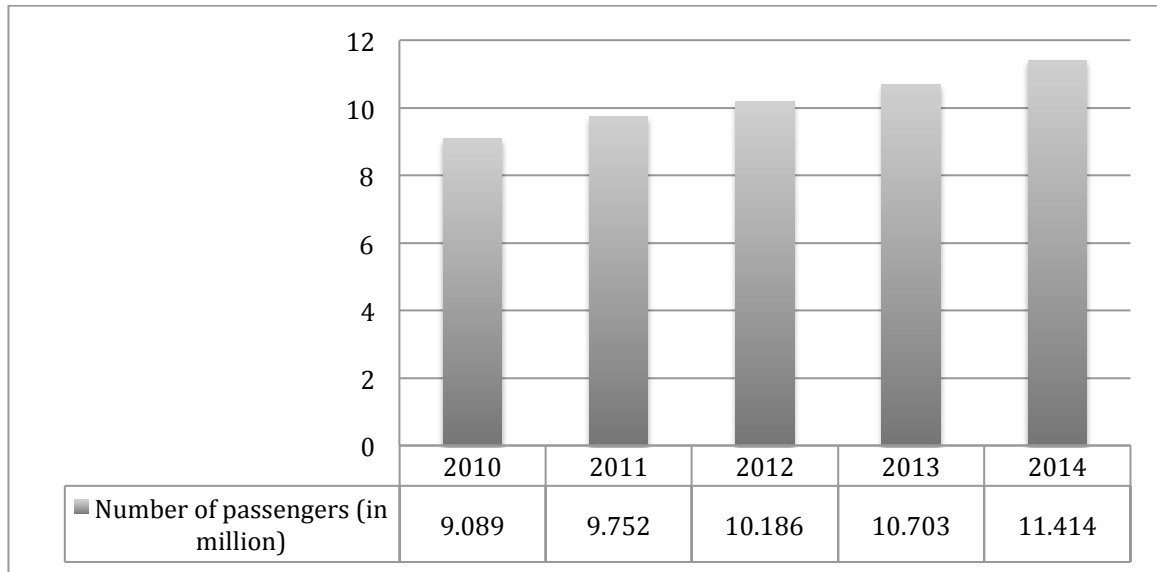


Figure 5. Number of passengers 2010-2014 (in million)

Source: (Corporate Governance and Sustainability Report, 2011; Sustainability Report 2012, 2013, 2014, 2015)

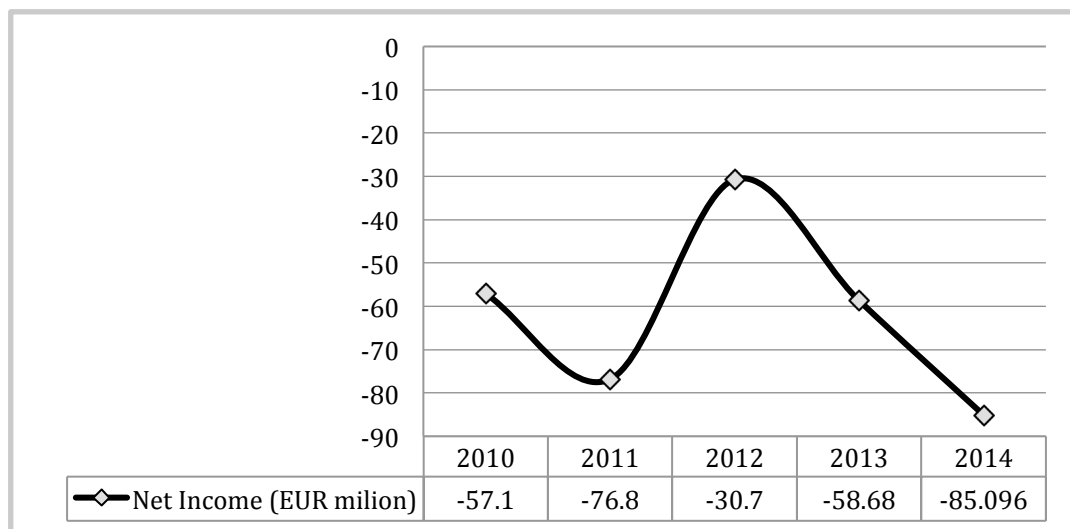


Figure 6. Net Income (in EUR million)

Source: (Corporate Governance and Sustainability Report, 2011; Sustainability Report 2012, 2013, 2014, 2015)

In 2014 the number of passengers was still increasing and the fuel costs dropped after many years. However, the financial performance of the TAP Group exceeded loose of net income for over 85 million EUR. That negative financial results of the company had their origins in the number of disturbances that occurred that year - period of strikes of that happened at the end of the year and the operational problems in summer. Taking into consideration that both of those events happened in summer and Christmas holiday season when the demand for air traffic is high, those disturbances resulted in heavy loses. In that year, the company started again the preparation for the privatization process in that has been concluded in 2015. The

main reasons for restarting the process of the privatization were the large debts of the airlines that according to EU regulations couldn't be covered by Portuguese government. The privatization of TAP Airline was also the condition of EU/IMF bailout, which require Portugal to sell several of their state assets (Khalip, 2013). There were several buyers attracted to the purchase process including Lufthansa, Globalia or Portuguese entrepreneur Miguel Pais do Amaral. On 24 of June 2014, after many discussions, the process of privatization had been completed (Goncalves, 2015). TAP sold 61% of their share to The Atlantic Getaway consortium that includes entrepreneurs Humberto Perdrosa and David Neeleman.

The consortium made a promise to inject 345 million as a capital. In 2016 and 2017 it will also provide 250 million EUR of pre-delivery payments for the new aircraft. Nowadays TAP flies to 81 different destinations in 34 countries focusing on markets in Africa, Brazil and Europe. According to the information provided on the airline website, TAP operates around 2500 flights a week. Their fleet is constituted of 61 Airbuses and 16 another planes that are exploited by Portuguese regional airlines PGA, which TAP acquired in 2006. In upcoming years TAP is expected to obtain 53 new Airbus aircraft funded by The Atlantic Getaway consortium.

Next year the airline is expected to return profit after several years of financial crisis. The consortium agreed to focus on boosting the revenue without reducing operational costs. The project of financial recovery sees the profit opportunity in launching new flights to up to 10 destinations in United States and 10 destinations in Brazil. Another injection of cash will come from investments projected for upcoming years which estimated value can reach up to 800 million EUR (Khalip, 2015).

3.4. Sustainability in TAP – origins and initiatives

The first track of increased sustainability initiatives by TAP date to 2005, the year when the airline joined Star Alliances and signed a document on Environmental Commitments. By declaring sustainable development, TAP stated increased concern of environmental issues and integrating them into all airline practices. Airline also focused on more eco-efficient practices and implementation of technologies that minimize the environmental impact of TAP activities. The company also declared the importance of promotion of environmental awareness among their employees (2016).

At the same year TAP declared TAP Fuel Conservation and Emission Reduction Project. The aim of this project is to reduce CO₂ emissions and increase fuel efficiency of the aircrafts. The program has been successfully implemented and the total amounts of CO₂ emissions avoided by now reach 90 thousand tons.

Since 2009 passengers travelling by TAP have the possibility to compensate the CO₂ emissions of their travel by using innovative Carbon Offset Program. After choosing the itinerary on the website, the passengers obtain information about total CO₂ emission of their flight and the equivalent amount of money needed for its compensation. TAP group use ICAO model for calculating the CO₂ emissions that takes into consideration the indicators like distance, route or ticket type. TAP was the first airline worldwide that launched such kind of initiative. Carbon Offset Program was highly appreciated by UNESCO and International Union of Geographical Sciences (IUGS). In 2010 it has been awarded with “Planet Earth Award 2010” as the most innovative sustainable product.

Along with Carbon Offset Program, the company participates in sustainable development products by launching several eco-friendly programs like “Agir Eco” that supports preservation of the planet. Another programs like Furnas do Segredo Small Hydro Power Plant, Braço Norte Hydroelectric or Aquarius Hydroelectric Projects had been launched in Brazil in order to ensure emission reduction and provide with renewable energy resources.

From 2006 up to present the company publishes annual Sustainability Reports next to Annual Reports. Since 2009 the company publishes annual Sustainability Reports online on their official website. The first Sustainability reports were issued jointly with Corporate Governance Reports, but since 2013 the company publishes them as in the separate forms.

4. Methodology

4.1. Research design

The theoretical concepts discussed in the literature review presents the concepts of sustainability, sustainability and its communication in airline industry. Next chapter provide us with the necessary background information about the case study choice. This part of work will discuss research design, methods, data collection and limitations. The aim of this chapter is to present an action plan of establishing a research method and further replying research questions. It will also give an insight of data collection method. Ultimately, the limitation of case study and selected data tools will be presented.

4.2. Case study

In previous years, case study method was largely applied to different scientific areas including business, education or social science (Soy, 1997). It has been described as a method that allows researcher to deeply understand phenomena/concepts in its context. Robert K. Yin defines case study as:

“an empirical inquiry that investigates a contemporary phenomenon within its real-life context; when the boundaries between phenomenon and context are not clearly evident; and in which multiple sources of evidence are used” (Robert K. Yin, 2013, p. 13)

In this definition we clearly see that case study is a method appropriate to investigate new phenomenon it its in real-life context. According to Eisenhardt, 1989, case study perfectly matches to explore new research areas with little theory, or those whose theory seems inadequate. Case study has been also recognized as a particularly useful tool to respond “how” and “why” research questions, as they required detailed investigation.

By using several sources of evidence, case study provides us with deep and complete analysis. Robert K. Yin, 2013, made a classification of methods used to collect data for case study purpose, which are:

- 1) Conducting Interviews,
- 2) Direct observations,
- 3) Participant observations,

- 4) Collection of physical artifact,
- 5) Documents analysis,
- 6) Archives analysis.

Most of the contemporary case studies are based on triangulations, which involve using at least two ways of data collection (Schell, 1992). Using multiple sources of data is seen as the strongest benefit of case study. Those sources can be further analyzed by exploiting both qualitative and quantitative method.

According to Robert K. Yin, 2013, case study can be organized in three categories: exploratory, descriptive and explanatory. Exploratory case study focuses on defining questions and hypothesis. Descriptive provide with a picture of phenomena within its context. Explanatory study presents data and cause-effects relationship. The literature highlight that those categories can mix and descriptive case can be exploratory when no previous or little research has been done on the phenomenon. What is more, case studies have most value when they are combination of exploratory and descriptive, or descriptive and explanatory. This study has both descriptive and explanatory character. It also followed structured research design that respects the six steps of developing a case study proposed by Soy, 1997. Robert K. Yin, 2009, defines research design as:

“logic that links the data to be collected and the conclusions to be drawn to the initial questions of study; it ensures coherence” (p. 19)

Starting from formulating questions, choice of cases and determining data analysis technique the research design presents a helicopter view on the work structure (see Table 1).

1. Determination and definition of research questions	Find research object. Conduct literary review. Define research question(s).	Research questions: - <i>How sustainability is practiced within the TAP Group?</i> - <i>What are the biggest sustainability challenges for TAP Group?</i> - <i>How other airlines communicate sustainability?</i> - <i>How TAP Group communicates sustainability initiatives to their customers?</i>
2. Selection of cases and determination of data gathering and analysis technique	Selecting data gathering instrument and determining tools to gather data.	Sustainability Annual Reports (available online) Interviews within the TAP Group.
3. Preparation to collect data	Systematization of data. Preparation of interviews.	In-depth reading of reports, categorization of data into economic, social and environmental challenges and solutions. Constructing semi-structured interviews.
4. Collection of data in the field	Conducting interviews.	
5. Evaluation and analysis data	Finding links. Referring to research questions. Triangulation of data.	
6. Report preparation	Portray a problem in a chronological order. Present confirming and conflicting findings.	

Table 1. Six steps of developing case study

Source: author, based on (Soy, 1997)

4.3. Data collection and analysis

Previous research on sustainability in airline industry applied various methods to analyze the phenomenon. Some of the studies used semi-structured interviews (Lynes and Andrachuk, 2008) while other are based on surveys (Hagmann et al., 2015). From multiple methods of data collection, this study incorporates qualitative analysis of semi-structured interviews and documents analysis.

4.4. Qualitative research and data triangulation

Qualitative research characterized by its open-ended nature has been widely applied research method in different study areas (Denzin and Lincoln, 2011). Comparing to quantitative research that is based on numeric data, qualitative research is built upon numerous practices in order to solve research problem (Schwandt, 2001). Qualitative data are in major part written texts but they could include as well images, sound recordings, videos or narratives (Bernard and Ryan, 2009). Several evaluation tools are used in qualitative research studies and among them we differentiate interviews, document analysis, observations or questionnaires (Schwandt, 2001).

In order to provide a wider perspective, the thesis builds upon two types of tools: documents analysis and semi-structured interviews. Applying triangulation into a case study is a common practice in research as it gives more systematic outcome (Flick, 2009). Furthermore, according to Flick, it analyzes the problem on different levels and provides results with higher quality.

4.4.1. Semi-structured interviews

Within different qualitative data sources, interviews are one of the most commonly exploited by researchers. We can differentiate several types of interviews according to their purpose and interviewing approach (DiCicco - Bloom and Crabtree, 2006). This variation comprises more standardized structured interviews like surveys or qualitative interviews where the researchers have a chance to obtain as a result detailed descriptions. We can categorize qualitative interviews depending on their organization into semi-structured and unstructured. For the purpose of this study, semi-structured in-depth one-to-one interviews were conducted with TAP Group employees from different positions. The interviewed people come from different company background and have different functions in TAP – former board member and fleet manager.

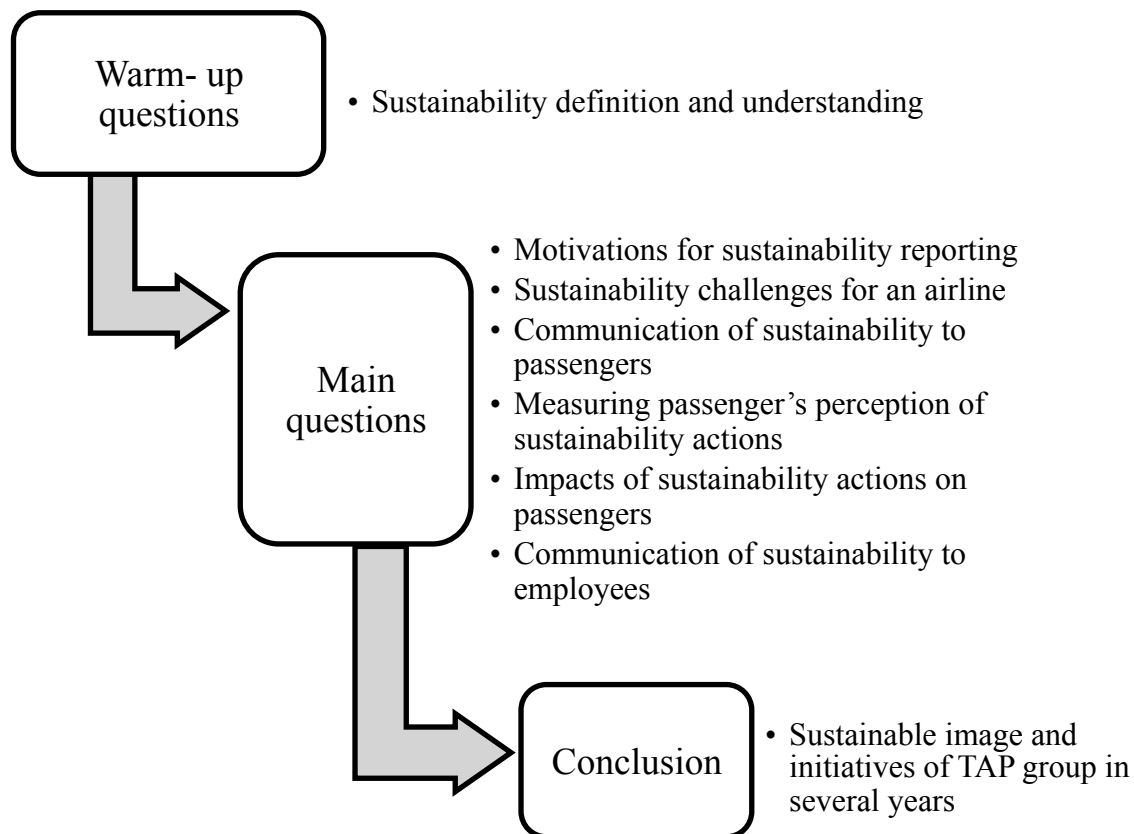


Figure 7. Interview structure and covered topics

Source: author

Semi-structured interviews are based on asking similar questions that cover that are concentrated around main topic/area of study (Bernard and Ryan, 2009). According to same study they are the most common used interview type that can be used to interview group or individuals. Comparing to structure interviews, where a set of questions is always the same, semi-structured interviews are more flexible and allow the interviewer to have a bigger control over a conversation. By organizing questions thematically, the data can be systematically organized and analyzed. DiCicco – Bloom & Crabtree, 2006, propose to organize open-ended questions according to the different aspects of research. Figure 7 presents the organization and types of questions asked to several employee of TAP Group. Starting from more general warm-up questions interviewed persons was further asked about motivations for sustainability reporting, challenges and sustainability communication. Those main questions were organized thematically in order to obtain data necessary to respond

research questions. Finally, interviewees were questioned about airline's future vision in order to conclude whole interview process.

4.4.2. Documents analysis

Different types of documents such as letters, administrative documents, newspapers articles or written reports have been classified as appropriate for the use of all types of case studies (Yin, 2003). The strongest benefits of including documents analysis into the case study is unquestionably stability, as they can be reviewed several times and precision, as they contain many detailed information.

This case study uses annual Corporate Governance and Sustainability Reports as well as Sustainability Reports released by TAP Group. The study aims to identify the overall characteristics of those reports by content analysis. Besides drawing general image of the reports over past years, the study also shows the development of the reporting strategies and shows changes that occurred in TAP Sustainability reporting over past years. The study also gives an in-depth look at sustainability indicators on economic, social and environmental perspective mentioned in the reports. It compares the most important measures across recent reports of TAP Group so as to verify if the reports are consistent. Additionally, quantitative comparison of the key figures on main sustainability actions allows seeing airline sustainability performance over the past years. All the reports used in data collection were published by TAP Group on the airline official website and available in PDF form. The following reports of the airline were used in the study:

- Corporate Governance & Sustainability Report 2009
- Corporate Governance & Sustainability Report 2010
- Corporate Governance & Sustainability Report 2011
- Corporate Governance & Sustainability Report 2012
- Sustainability Report 2013
- Sustainability Report 2014 (preliminary draft)

Additionally to comparison of reports prepared by TAP Group, the study also compares the sustainability communication strategies of other airlines. The studied sample includes, besides of TAP, 6 other airlines belonging to different airline alliances:

- **Star Alliance:** Lufthansa, SAS

- **Sky Team:** AirFrance-KLM, Delta Air Lines
- **One World:** British Airways, Qatar Airlines

Additionally to this, two independent LCC airlines were studied:

- Ryanair
- Easyjet

The first analyzed aspects are: the overall airline strategy, size, revenues and profile. Then the study looks how those airlines communicate their sustainability issues. By looking at the airlines corporate websites main sustainability topics were identified in order to draw a conclusion on what is are the current trends among airlines in sustainability communication. Moreover, the study gives a closer look at the airlines reporting by identifying which of the airlines publish separate sustainability or CSR report and how is it related to the size and position of the airline on the market. The study then Comparison of most recent report of three different airlines gives more value to the research as it presents general reporting tendencies in airline industry. Finally the research looks at the most recent available reports and compares its size, framework and general structure.

This additional part of a work reinforces the validity of a case study as it presents the company on a bigger picture gives a brighter perspective of the studied topic. It also allow to respond a research question on sustainability communication in the airline industry and on to which extent the airline make their effort to build their green image.

4.5. Methodology limitations

Despite its benefits and values, case study has been criticized for different reasons. Since XX century, many scholars consider case study as weak research method lacking precision, rigor and objectivity (Yin, 2003). One of the most common problems with the case studies is the assumption that they don't provide enough basics for being considered scientifically valid (Yin, 2003). In the case of this work, the research concerns TAP Group and the results might not be appropriate while looking at other airlines. This is strongly connected to generalization that is perceived as another weakness of case study (Tellis, 1997). While looking at the single case, it result is only valuable to the issue presented in it.

Another complaint is related to the amount of documents and narratives produced. Case study often bases on bulky amount of data collected by the researcher. In this case, the data collected consist of eight complete annual reports. The information obtained from them is

therefore very large and demanding to classify. Tellis, 1997, suggests that making sense out of large amount of data often involves interpretations that could lack objectivity. The author also makes a point about semi-structured interviews problems. According his study, interviews are often lacking organization, structure. They are influenced by the situation, personal views and do not reflect the reality.

5. Results

This chapter of a study organizes and presents the key findings of document analysis and interview. First part of a chapter focuses on presenting in detail initiatives and actions of TAP Group regarding sustainability. This part is based on qualitative report analysis. It provides a ground to respond the research questions regarding the evolution of sustainability activities of TAP Group during the previous years. It will also give insight on the audience of the reports.

Second part of this chapter consists of the presentation of sustainable strategies of 8 different airlines operating on different markets with different strategies, sizes and types of customers. The chapter will focus on the general trends in reporting sustainability by the above-mentioned airlines. The goal of analyzing 8 additional airlines is to answer the question of general trends in reporting and communicating sustainability. The study of other airlines also allows comparing how TAP performs in comparison to its competitors.

Finally, the results of interview with TAP Group employees will be presented and analyzed.

5.1. General structure of TAP Group reports

TAP Group publishes their sustainability reports each year since 2006. The first reports were published in limited printed copies. Since 2009, next to the printed version TAP Group publishes the reports online. The electronic version of the reports from 2009 to the present is accessible to download on official airline website in Portuguese and English language version. For the first several years' sustainability reports of the airlines were published as an integrated part of Corporate Governance Report. From 2013 sustainability reports are published separately. From this year, TAP Group also resigned from publishing the printed versions of the reports. All of the sustainability reports of TAP Group were published in July following the reporting year.

All of the TAP Sustainability Reports are prepared with the accordance to GRI framework that is currently used by around 60% of the airlines worldwide (PricewaterCoopers, 2011). It provides all the instructions and aspects that need to be presented in the reports according to the type of industry. Application of GRI standardized framework to Sustainability Reports allows comparing the reports between companies, as all of them have to follow the same set of principles and cover same bases. For instance, airline industry has to follow specific report construction, which consists of several guidelines. In that way all the reports are consistent and presenting same aspects each year. TAP Sustainability reports are constructed according

to GRI indicators and include similar elements in each report (see Table 2.). During the reporting period there have been little modifications in the report structure, which involved mainly adding/removing different topics in the reports. However, the general structure of the reports remained same, including economic, social and environmental perspective in the core of the reports.

While the reports are obviously similar to each other, several modifications have been made in their structure throughout the reporting period. The report from 2009 is least complex and developed, as it doesn't include the part relating to quality certification, information about social responsibility in the companies of TAP GROUP or the degree of coverage of previous sustainability objectives. The main changes in structure were that since 2013 TAP Group withdrew the printed version of sustainability report and published them exclusively online. 2013 was also the year when the company started to include information about external social responsibility. Over the whole reporting period there have been changes regarding including information about promoting environmental responsibility, which were included only in the report from 2012.

REPORT YEAR	2009	2010	2011	2012	2013	2014
Print Figure	300	330	300	300	No information	No information
Publication Date	Jul-10	Jul-11	Jul-12	Jul-13	Jul-14	Jul-15
Opening Note	✓	✓	✓	✓	✓	✓
Message from the Chairman	✓	✓	✓	✓	✓	✓
Main Sustainability Indicators	✓	✓	✓	✓	✓	✓
Profile	✓	✓	✓	✓	✓	✓
Corporate Governance	✓	✓	✓	✓	✓	✓
Management Model	✓	✓	✓	✓	✓	✓
Risk Management	✓	✓	✓	✓	✓	✓
Innovation and Development	✓	✓	✓	✓	✓	✓
Relationship with the Stakeholders	✓	✓	✓	✓	✓	✓
Shareholder	✓	✓	✓	✓	✓	✓
Customers	✓	✓	✓	✓	✓	✓
Regulatory and Supervisory	✓	✓	✓	✓	✓	✓

Entities						
Suppliers	✓	✓	✓	✓	✓	✓
Quality Certifications	✗	✓	✓	✓	✓	✓
ECONOMIC PERSPECTIVE						
Importance of Air Transport for Economic Development	✓	✓	✓	✓	✓	✓
Activity	✓	✓	✓	✓	✓	✓
Creation of Value for the Stakeholders	✓	✓	✓	✓	✓	✓
SOCIAL PERSPECTIVE						
Respect for Human Value	✓	✓	✓	✓	✓	✓
Society	✓	✓	✓	✓	✓	✓
Employees	✓	✓	✓	✓	✓	✓
Social Responsibility in the Companies of TAP Group	✗	✓	✓	✓	✓	✓
External Social Responsibility	✗	✗	✗	✗	✓	✓
ENVIRONMENTAL PERSPECTIVE						
The minimisation of Environmental Impacts	✓	✓	✓	✓	✓	✓
Flight Operations	✓			✓	✓	✓
Ground Operations	✓			✓	✓	✓
Waste Management	✓			✓	✓	✓
Handling Operations	✓			✓	✓	✓
Reduction of Environmental Impacts	✓	✓	✓	✓	✓	✓
The Environment in the Companies of TAP Group (ground operations, waste management, handling operations)	✗	✓	✓	✗	✗	✗
Promoting Environmental Responsibility	✗	✗	✗	✓	✗	✗
Energy Consumption	✗	✗	✗	✓	✓	✓

Preservation of Biodiversity	✖	✖	✖	✓	✓	✓
Future targets and degree of coverage of previous objectives	✓/✖	✓	✓	✓	✓	✓
GRI Correspondence Table	✓	✓	✓	✓	✓	✓
Global Reporting Initiative Indicators	✓	✓	✓	✓	✓	✓
Approval of the corporate governance and sustainability report	✓	✓	✓	✓	✓	✓

Table 2. Content of TAP Sustainability Report since 2009 to 2014

Source: (Corporate Governance and Sustainability Report, 2011; Sustainability Report 2012, 2013, 2014, 2015)

5.1.1. Audience of the reports

As demonstrated in the literature review, current challenge of airlines nowadays is to demonstrate their general values through sustainability reports in order to reinforce the positive airline picture. TAP Group addresses their reports to different stakeholders. According to the reports the sustainability communication practices have positive impacts on the creation of value of a company. Since 2009, assuring the consistency of the information about TAP sustainability activity and its communication to stakeholders was one of the key commitments.

In all of the analyzed reports TAP Group has identified shareholders, customers, suppliers, society, employees and regulatory and supervisory entities as the main audience of their various communication activities. The report lists number of channels of communication but Sustainability Reports are addressed exclusively to company's shareholders. They also provide transparency regarding sustainability issues to various supervisory entities. TAP Group, through Sustainability Reports, demonstrates its sustainable business profile to European Commission and other international regulating entities like IATA or at national level – Instituto Nacional de Aviação Civil, I.P.

The report can help in the policy making by providing a holistic view on how sustainability is reported and communicated in the airline industry. Varied bodies including IATA, EU Commission and several independent institutions including non-EU can also benefit from it by benchmarking their own practices against the EU airlines. Detailed analysis of TAP also provides them with a rough idea of how big airlines do for sustainability matters. More needs

to be done regarding the communications matter and to reach out to more customers out there. Different channels of communications including social media can greatly help in reaching broader audience and that report can be of help in the way forward.

5.2. Economic Perspective in TAP Sustainability reports

TAP Sustainability Reports highlight their role as a national exporter and stress on the dimension to which company contributes to the country's economic development. This aspect is mentioned at the first place in all of the chapters about Economic Perspective. Company clearly presents their vision and position on economic sustainability, which didn't change significantly over the reporting period. In 2009, the vision was presented as follows:

“In the development of its objectives, the Company assumes the position of designing its strategy based on sustainability criteria, aimed at the creation of value, also taking into account the dimension of its contribution to the country's economic development through its very important positioning, as a national exporter.”

In the most recent Sustainability Report the vision respected the same principles and presented in a similar way. In 2014 the company aims to:

“Pursue a sustainable strategy, aimed at the creation of value, also taking into account the dimension of its contribution to the Country's economic development via its prominent positioning as a national exporter.”

To create a positive sustainable value, the airline undertook several actions since the beginning of the reporting period. According to all of the reports, the contribution to Portuguese economy is increasing each year

The very important aspects mentioned in all the reports is the promotion of Portugal and developing of routes operating from the country. The objective to promote Portugal and assure diversity of destinations to the customers was realized and developed during the whole reporting period. Analyzed reports highlight each year the number of destinations served directly from Portugal (see figure 8). Since 2009 TAP launched 29 new destinations operating from Portugal. The highest increase of number of destinations can be observed between 2010 and 2011. This change is related to the decision of establishing Lisbon Airport

as a hub. This decision was the milestone of the company actions towards value creation. As a center connection between Europe, Brazil and Africa the airport serves high number of passengers and that, according to TAP reports contributes to promotion of Portugal mainly as a touristic destination but also attracting investors to the country.

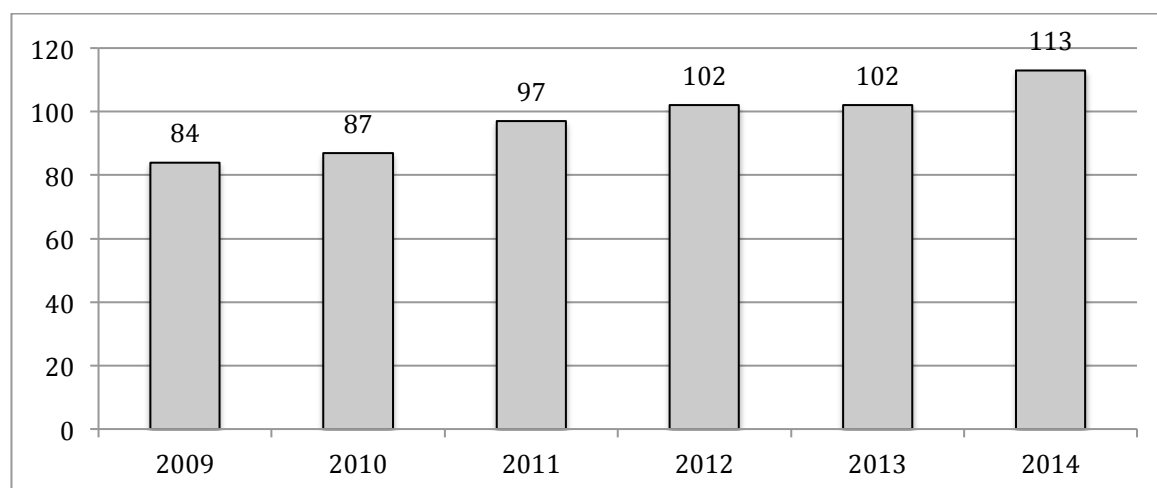


Figure 8. Number of destinations served from Portugal by TAP

Source: (Corporate Governance and Sustainability Report, 2011; Sustainability Report 2012, 2013, 2014, 2015)

The most important market for TAP Group activity is remarkably Europe that represents on average 66% of revenue between 2009-2014. We can also observe a growing importance of other non-European, mainly South America that represents more significant source of revenue each year. One of the economic sustainability objectives of TAP Group is to provide connection with Portuguese speaking world. This results in a growing number of connections with Africa and South America (from 74 connections per week in 2009 to 105 in 2014). The company reinforces its position in South Atlantic each year and increases the number of destinations in Brazil (from 8 in 2009 to 12 in 2014). The activity in this region represents for 2014 around 38% of total Company's Activity.

Passengers' satisfaction and loyalty is another important issue of economic sustainability highlighted in TAP Group reports. The number of carried passengers reflects the growing activity of an airline in previous years. With the increased number of passengers, also the number of loyalty Victoria Program has increased. In 2009 there were 677,182 registered members of a program and in 2014 the number reached 1 600 000. It shows over a 100% increase in the number of registered members. Also the customer satisfaction, which is reflected in the decreasing number of complaints per carried passengers, has decreased over the whole reporting period. To measure the passengers' satisfaction, TAP Group conducts the evaluation based on 1 (very unsatisfied) to 10 (very satisfied) scales. In 2009 the results was

7,47 and grew to 7,67 in 2009. To summarize all the passengers-related initiatives, we can clearly see the growth of their number, loyalty and high level of passengers' satisfaction from the service.

5.3. Social Perspective in TAP Sustainability reports

Each TAP Group report, presents a vast image of sustainable practices regarding social perspective. The vision of a company throughout whole reporting period insists on commitment to society by respecting labor conditions and improvement of employment conditions. TAP Group highlights the promotion of diverse social initiatives and transparency in their employment policy. The most recent vision of social sustainability assumes:

“Developing a proactive performance to generate economic and social value, identified with principles of transparency and commitment to society, providing professional development and work conditions compatible with legitimate labor expectations and market demands, and promoting social initiatives.”

In its reports, TAP Group divides their social performance into two groups: actions regarding communities and in-houses activities.

5.3.1. Actions regarding communities

In order to accomplish those initiatives, a company undertook various actions during analyzed period. Starting in 2009, TAP Group commenced several programs to commit to the society. The activities included several communities such as students, underprivileged communities, employee families or people with disabilities. Following actions carried during the reporting period and several new were launched regarding different communities:

Family members of employees:

- Curricular traineeships

Students and children:

- Schools visiting TAP Premises
- Transport of 10 kg extra baggage to university and Erasmus students
- 20% discounts for European destinations to people between 12 and 25 – International

Youth Day (2009)

- Children from Madeira under the age of 12 travel free of charge between Mainland Portugal and Funchal (from 2010)

Underprivileged communities:

- Launch of *Baptismo de Voo* program that provide opportunity to fly to children
- Agreement with the United Nations High Commissioner for Refugees
- Victoria Program members get possibility to donate miles to support humanitarian institution
- Supplying water in Luanda
- Collection of basic goods and food

People with disabilities:

- Professional integration (from 18 employees in 2009 to 24 in 2014)
- Donation of pushchairs and wheelchairs to several institutions

Others:

- *Ganhar Asas* program that helps to treat flight phobia
- Supporting *Women's Race* against breast cancer (in 2011 and 2012)
- TAP Care Team – providing support to survivors and families of victims of aviation accidents (2014)

5.3.2. In-house activities

Beside the support for the different communities, actions of TAP within social sustainability focus on in-house activities. Those activities, described as *valorization of human capital*, are subject to effective human capital management. During the reporting period, the employees were involved in the professional training and development courses. The number of participants in the training has increased almost a double since the beginning of analyzed period. Alongside with the professional development of their employees, TAP Group also seeks to provide them with other facilities. One of the examples is a nursery that works since the early 70'. The employees' children have a guaranteed day-care available 24h and every

day. Another important initiative is canteen available for employees, favorable health insurance, ticket benefits and social support.

TAP Group also insists on equality of gender on different level positions, where the number of female and male workers is balanced and remains almost the same each reporting year (see table). Same importance is given to providing stable working conditions by providing the highest possible number of permanent contracts to the employees each year.

	2009	2010	2011	2012	2013	2014
Female employees	40%	41%	41%	41%	41%	41%
Male employees	60%	59%	59%	59%	59%	59%
Employees with permanent contracts	87,6%	90,8%	94,5%	93,5%	91,5%	86,6%
Employees with fixed-term contracts	12,04%	8,9%	5,4%	6,2%	8,2%	10,8%
Employees with variable-term contracts	0,10%	0,3%	0,1%	0,3%	0,3%	0,6%

Table 3. Profile of TAP Group Employees during the analyzed reporting period

Source: (Corporate Governance and Sustainability Report, 2011; Sustainability Report 2012, 2013, 2014, 2015)

5.4. Environmental Perspective in TAP Sustainability reports.

The negative effects on environments are among the most destructive consequences of aviation industry. Therefore sustainability actions regarding the reduction of harmful impact on ecology and biosphere are one of the core challenges of the industry (Schäfer and Waitz, 2014). In this scope, TAP Group undertakes a number of actions to create sustainable value within environmental perspective.

During all the reporting years, an increasing effort was made to mitigate environmental actions of TAP Group. The vision of the company concentrates mostly on the promotion of environmental consciousness and the minimization of their negative effect on the environment.

5.4.1. Promotion of environmental awareness

Starting from 2009, the company introduced CO₂ Emission Compensation Program. Each year the results of this initiative and its development have been presented in detail. The promotion of CO₂ compensation by passengers has resulted in the positive outcome with the

increasing number of offset CO₂ (see Figure 9.). The increased value shows that passengers voluntary take part in the program and that the increase of the number of reduced tones since the begging of an initiative to last analyzed reports is higher than 600%. This positive results of the carbon offset Program, is one of the biggest achievement of a company regarding that, according to the reports, exceed all the objectives.

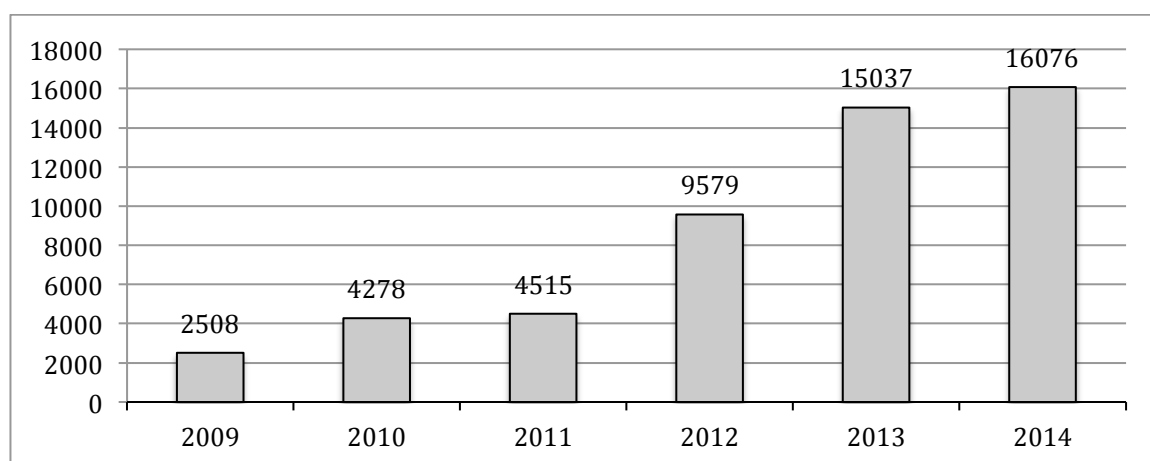


Figure 9. Carbon Offset (in ton CO₂)

Source: (Corporate Governance and Sustainability Report, 2011; Sustainability Report 2012, 2013, 2014, 2015)

In terms of promoting environmental sustainability, there have been another actions mentioned in the reports. 5th of June has been established as World Environment Day in 2009 and this event has continued each year. The aim of the initiative is to raise environmental awareness among employees. Another project that targets increasing environmental consciousness of the employees of TAP Group is *Agir Eco* program that through various communication channels like e-mail, newspaper or information published in TAP Campus raise awareness on different ecological issues. Employees are also encouraged to use cycle mobility to travel from their residence to TAP Campus during the European Mobility Year that TAP Group joined in 2014.

5.4.2. Commitments to reduce environmental impacts of aviation

Analyzed reports address a great part to present their actions, achievements and future goals regarding environmental effects of aviation. According to the content of the reports, the reduction of CO₂ emissions and incensement of energy efficiency are the biggest concern and challenge for the company from the environmental perspective. TAP Group demonstrates its environmental strategy, which also includes reporting on use of paper, energy, water and waste production.

Regarding the CO₂ emissions, the company has for an objective to improve their environmental performance by 1,5% per year up to 2020. By looking at the information provided in the report, the CO₂ emissions per passenger are gradually decreasing each year with the variation of -3% between 2009 and 2014. Similarly, the objective to increase fuel efficiency by 1,5% per year up to 2020 brings positive results with the same variation of -3% in Jet A1 consumption per passenger between the first and the last analyzed reports.

The information incorporated in the reports clearly shows that TAP Group has undergone significant improvements in being ecologically sustainable. Also energy, water and paper consumption has been reduced in the reporting years. The company significantly decreased as well the quantity of waste produced.

5.5. The big picture – comparison of different airlines profiles and sustainability communication strategies

This part of the work concentrates on presenting sustainability efforts and communications on several other airlines in order to draw the conclusions on how sustainability is communicated in the industry and finally to demonstrate how TAP Group green strategy is similar or different from the other airlines. A short background of analyzed airlines from different alliances and of diverse visions is presented below within the context of sustainability communication. After the presentation of the airlines, the brief summary in a form of a table is drawn in order to see the airline profile and main characteristics.



As a member of Star Alliance, Lufthansa is one of the leading world airlines that operate 220 destinations worldwide. The main offices of a company are based in Cologne, Germany and hubs in Frankfurt and Munich Airports. Lufthansa puts a lot of effort in order to build its sustainable image. Lufthansa reports on sustainability commitments in *Balance* reports that have been published since 1994. A lot of information about sustainability can be also found on a corporate website. The website covers the areas of corporate responsibility, economic sustainability, environmental responsibility, social responsibility and corporate citizenship. That highly reflects the company vision of sustainability that involves “*acting responsibly not only in economic matters but also in environmental and social issues*”. Lufthansa recognizes economic sustainability it as “*fundamental to*

shaping the important dimensions of our responsibility". The main area of social sustainability reporting concentrates around employees-related aspects. Firstly, the airline presents its image as a company that aspires to be an attractive employer. According to several ranks mentioned in report from 2014, Lufthansa is one of the best employers in Germany. It offers a wide range of facilities, focused on work-life integration like flexible schedules or possibility to work from home. Alongside, it promotes ethnic and cultural diversity as well as equality. Regarding environmental sustainability, the main focus is on fuel consumption, emissions, energy and resource management. As a key impact, fuel consumption is largely discussed in the report. Lufthansa takes several measures to reduce their CO₂ footprint. The biggest importance is given to the modernization of the aircraft and investment in new technology.



Scandinavian Airlines

Leading in the Scandinavia, SAS flies to 119 destinations, mainly in Europe. Airline's business model focuses nowadays on reinforcing the loyalty of its frequent travelers by adding new destinations and departures. It also focuses on lowering the price as a response from growing competition from LCC. The company values are essentially reflecting the Nordic business model that considers sustainability as a core value. Large section on sustainability topics is available on corporate website and covers many areas like view on sustainability, policies, environmental issues, SAS Sustainability Blog or description of sustainability initiatives. Company provides also emission calculator for the passengers. SAS is also pioneering in sustainability reporting. In 1996 company started to publish environmental reports and since 2002 publishes Sustainability reports.



Air France-KLM is a Franco-Dutch airline holding company and a member of SkyTeam alliance. Air France-KLM flies currently to 320 destinations worldwide. The company strategy is "*go looking for growth where it exists*" and insists on continuous reinforcing of its position on the international market by successively increasing number of destination flying within and to Europe. Regarding the sustainability

issues, airline focuses principally on fleet modernization, eco-design, involving employees in sustainability actions and engaging stakeholders to expand the quality of environmental performance. The communication channels of the airlines are limited to the corporate website and annual reports. The first environmental report of Air France was published in 1996 and the first AIR France-KLM CSR report in 2015. The corporate website of a company provides a separate section on sustainable development integrating the topics of environmental and climate, company ambition, local development, customers, stakeholders and Lab'line for the future project (available only in French). It also provides passengers with CO₂ calculator to allow access to the emission generated by the flights. Additionally, to the information on corporate website, the most current CSR report available in the online interactive form in French and English.



Similarly to Air France-KLM, Delta Air Lines also belongs to SkyTeam alliance. The company is the main American airlines and being one of the biggest in the world serves 326 destinations. The airline concentrates mainly on connections from/to America where main Delta hubs are located in Atlanta, Detroit, Minneapolis and New York. Besides that, Delta provides connections to all other populated continents. Delta corporate website provides separate section on Corporate Responsibility, where it defines sustainability as *“meeting the company’s financial goals of growth and profitability over time, through business practices that minimize the environmental impacts of Delta operations and promote the health, welfare, and productivity of the individuals and communities we employ and serve”*. The company doesn’t provide much information on the sustainability issues, limiting their sections to environmental sustainability, carbon emissions calculator, information about Delta Force for Global Good (employees related issues) and Corporate Responsibility reports. Corporate Responsibility Reports of an airline date from 2009 to 2014 and all of them are available to download in PDF form.



Considering the fleet size, British Airways is the largest airline in the United Kingdom. It is a member of a third major (after SkyTeam and Star Alliance) alliance – One World. Flying to all inhabited continents, with the hub in London Heathrow Airport the airline serves around 160 destinations worldwide. The statement on airline corporate website says that “*Corporate Responsibility is a core element of our business plan*” and provides a separate section on a corporate responsibility program. According to the information included in this section, British Airways was a first airline to publish environmental report in 1992. The airline continues its effort until present-day and annually produces sustainability related reports available online. The company reports come under a different form such as Corporate Responsibility Report in 2012, Sustainability Report in 2013, Responsible Flying for Everyone in 2014 and BA Environmental Performance in 2015. Beside those reports, airline corporate website contains information about environmental impact, responsible business practices and sustainable community work.



According to Akbar Al Baker, chief executive, Qatar Airways is the nowadays fastest growing airline in the world. Possessing 340 aircraft, airline serves over 150 destinations on six continents. Qatar Airways operates from Middle East, having its hub at Hamad International Airport and main office located in Doha. It is also a member of One World alliance. Despite of a big size of the airline, a corporate website doesn't include broad information about its sustainability practices. An airline describes briefly its commitment to environment, environmental management (including its statement as a response to climate change). From the social perspective, a company describes its effort to support children education through its programs and initiatives. Airline doesn't publish sustainability or CSR reports and includes a short note on CSR in its annual report. It is important to highlight, that in previous years Qatar Airways was largely criticized for the working conditions of cabin-crew members (M.R., 2013, Karlsson, 2014). Main accusations were related to lack of privacy, mobbing and abuse of working-right.



Ryanair, one of the leading European low-fares airlines based in Dublin and Stansted Airports. The airline owns a fleet of 350 aircrafts and operates on nearly 200 routes across Europe, Morocco and Israel. Airline policy is to provide the cheapest transportation with a guarantee of punctuality and customer satisfaction. Bearing in mind the large size and strong position of the airline of European market, there is not much information on sustainability or CSR effort of a company available on the corporate website. The only information relates to the ranking, in which Ryanair was classified as highly efficient regarding fuel-efficiency. Regarding the sustainability reporting, there are no separate reports and Environmental and Social are presented in company's annual report.



Identical to Ryanair, easyJet is another low-cost airline based in Europe. Similarly, the vision of the company also focuses on providing inexpensive flight tickets, punctuality and expansion of the airline network within Europe. Currently airline serves 135 destinations and has strong expansions plans for the future. The company provides complex information about its sustainability and CSR. On the easyJet corporate website, the message from chief executive, Carolyn McCall says *"As the UK's largest airline and fourth largest in Europe, we take our Corporate Responsibility very seriously. It is fundamental to delivering our ambition and therefore influences everything we do"*. The main areas covered by the CSR/sustainability corporate sections are safety issues, employment conditions, environment, customers, human rights, charity initiatives and public policies. The company doesn't publish annual sustainability or CSR reports but briefly covers those topics in the annual report.

Airline	TAP Group	Lufthansa	SAS Group	AirFrance- KLM	Delta Air Lines	British Airways	Qatar Airways	Ryanair	easyJet
Business model	Full-service	Full-service	Full-service	Full-service	Full-service	Full-service	Full-service	Low-cost	Low-cost
Airline alliance	Star Alliance	Star Alliance	Star Alliance	Sky Team	Sky Team	One World	One World	N/A	N/A
Number of destinations worldwide	178	220	119	320	326	160	151	192	136
Fleet size	77	600	123	534	809	284	179	308	241
Revenue (in EUR million)	2.226	32.065	4.139	26.100	36.429*	13.191*	8.401*	5.654*	5.454
Number of carried passengers (in million)	11,4	107,0	28,0	89,8	138,0	41,0	26,0	90,0	69,0

* Converted to EUR according to SIX Financial Information, the currency rate from 10.08.2016

Table 4. Comparison of general profile of studied airlines

Source: Airlines Corporate Websites

As mentioned in the airline descriptions, all of them have a sort of sustainability/CSR communication channels and strategies. To have a closer look at the problem, it is crucial at this point to present a comparison of airline reporting strategies. The analysis of the airline profiles showed that not all the airlines communicate their sustainability efforts in exactly the same way. Yet, there are some common points – all of the analyzed airlines include the information on sustainability/CSR on their corporate website. Corporate websites cover a number of different topics. Some of them expand more topics than others and provide much more information but the common point of all is that environmental responsibility is always presented as one of the main issues and is the largest section (8 out of 9 analyzed airlines mention this topic on their website). Several of the analyzed airlines mention their environmental strategy and provide details of their efforts to reduce carbon emissions in the future. TAP, Lufthansa, British Airways, AirFrance-KLM mention on their corporate website their commitment to improve fuel efficiency and emissions according to the IATA global commitments. This includes a 50% reduction of CO₂ emissions by 2050 comparing to 2005 and 1,5% annual increment in energy efficiency until 2020. All those airlines present the numbers of their current emissions and compare them to previous years. EasyJet similarly reveals its fuel efficiency and presents its own ambitions to reduce carbon emissions by 8% by 2020 comparing to 2013. Other airlines like Delta Airlines limit themselves only to presenting the current efficiency without revealing any future plans. Ryanair and Qatar Airways don't include any numbers regarding fuel efficiency and do not mention their detailed future plans to reduce it.

As for the other secondary topics, they vary among airlines. The most popular among airlines are carbon offset and emission calculator, employment conditions and charity initiatives. TAP, Lufthansa, SAS, EasyJet and Delta Air Lines offer to their passengers a possibility to offset the carbon footprint of their flight by voluntary donation. British Airways launched similar initiative where customers can donate funds to reduce climate change by supporting several initiatives across UK. Both, carbon offset program and emission calculator are designed to increase the passengers' awareness of environmental impact of aviation and have a positive effect on the airlines green image. Surprisingly, not all of the airlines offering those programs includes on their website information on *“where the offset money goes?”* Lufthansa for instance reveals that initiatives are chosen by Myclimate non-profit organization and are of high standards. The clearer are TAP and Delta Airways that provide detailed list of initiatives and investments resulting from the initiative.

Contrary to the fact that all of the studied airlines mention the sustainability on their website to bigger or lesser extent, not all of them publish separate sustainability or CSR reports. Six out of nine studied airlines have a history of reporting on sustainability topics in separate reports. The pioneering airlines in sustainability reporting are unquestionably Lufthansa, SAS and British Airways. We can see from the analysis that the history of reporting in airline industry starts in early '90s with the first report published by British Airways. Other strong players on European aviation market followed the trend and started to publish their reports soon after that. It is also clearly visible that airlines belonging to alliances and operating on European market put more effort into sustainability reporting than for example Qatar Airways or Delta Air Line, which publish the reports only since 2009. When it comes to LCC airlines, there are established reports on CSR or sustainability and the corporate websites are also talk very little on those issues.

By looking at the relation of history of sustainability reporting and the airline size and revenues we don't see any clear dependence. Qatar Airways that reached high revenues and carried great number of passenger and serves many destinations worldwide still doesn't publish sustainability reports. On the other hand SAS Group, that operates mostly at the European market and is one of the smallest of all studied airlines, publishes their report since 1996.

Another observation from the result is related to the reports titles. In previous years, airlines tend to switch from Corporate Governance Reports, Environmental Reports or Corporate Responsibility Reports into Sustainability Report. Analyzed carriers that publish Sustainability Reports also show the preference in using standardized framework that in the case of studied airlines is always GRI.

Airline	Sustainability/CSR topics covered on corporate website	Key activities covered on corporate websites	Other communication channels (reports available online)	Reports size (in A4 pages)*	Framework*	Reporting period
TAP Group	yes	Climate changes, carbon offset, sustainable development strategies	Corporate Governance and Sustainability Report (annually from 2009 – 2012), Sustainability Report (annually from 2013 – 2015)	78	Global Reporting Initiative (GRI4)	From 2009 up to present
Lufthansa	yes	Corporate Responsibility, economic sustainability, climate and environmental responsibility, social responsibility, corporate citizenship	Balance Sustainability Report	132	No framework	From 1994 up to present
SAS	yes	View on sustainability, sustainability policies, environmental issues, emission calculator, carbon offset, initiatives and activities, sustainability blog	SAS Group Environmental Report (annually from 1996 – 2001), SAS Group Sustainability Report (annually from 2002 – 2015)	46	Global Reporting Initiative (GRI4)	From 1996 to present
AirFrance-KLM	yes	Environmental and climate, company ambition, local development, sustainability in the customer experience, stakeholders, responsible human resources, Lab'line project	Corporate Social Responsibility Report	129	Global Reporting Initiative (GRI4)	From 2005 to present

Delta Air Lines	yes	Environmental sustainability, carbon emissions calculator, information about Delta Force for Global Good	Corporate Responsibility Report	81	Global Reporting Initiative (GRI3)	From 2009 to present
British Airways	yes	Environmental impact, responsible business practices and sustainable community work	Corporate Responsibility Report (until 2012), Sustainability Report (2013), Responsible Flying for Everyone (2014), Environmental Performance Report (2015)	15	No framework	From 1992 to present
Qatar Airways	yes	Commitment to environment, environmental management, children educations programs and initiatives	No reports	N/A	N/A	N/A
Ryanair	yes	Fuel efficiency	No reports	N/A	N/A	N/A
easyJet	yes	Safety issues, employment conditions, carbon offset, environment, customers, human rights, charity initiatives and public policies	No reports	N/A	N/A	N/A

*Applies to the most recent report available on company's corporate website

Table 5. Sustainability/CSR communications channels and strategies of analyzed airlines

Source: Corporate Websites, Reports (TAP Group Sustainability Report, 2015; Balance Sustainability Report, 2015; SAS Group Sustainability Report, 2015; AirFrance-KLM Corporate Social Responsibility Report, 2015; Delta Air Lines Corporate Responsibility Report, 2015; British Airways Environmental Performance Report, 2015)

5.6. Interview analysis

Two semi-structured interviews were conducted in the TAP to better understand sustainability initiatives and their communications to both employees and the customers. These interviews provided fruitful insights into overall process and the actions taken by TAP.

It is interesting to note that although TAP tried hard to be sustainable but they also try to be profitable at the same time and that creates a bit of a tension to make the both ends meet. As mentioned by one of the interviewee:

“For sure the biggest issue is being sustainable and being profitable at the same time, because we don’t operate on very friendly environment.”

As mentioned by both interviewees, dependence on fossil fuels is the biggest challenge for TAP as other alternatives are either not widely available or they are too expensive to put in practice.

“Because we are almost fully dependent on fossil fuels so there are not so many alternatives to use that could be sustainable future-wise alternative to fossil fuels. Unfortunately there isn’t now, but we need to believe there will be – electric, hydrogen.”

In reply to the question regarding biggest sustainability challenges, one of the interviewee replied:

“Still, offset carbon emissions into the atmosphere.”

Related to the same issue, are the lack of availability and the coordination of the fuels at every destination to which TAP is operating. It is obvious that there is a clear gap in these regards, as TAP cannot fully control the whole supply chain of the process.

“...those possibilities are not available everywhere where you fly. Imagine for a company that flies only in Poland between one or two airport – it would be eventually very easy to implement continuous supply of hydrogen or whatever to the aircraft. But if you fly from Poland to middle of Africa, the probability of

having that fuel available there at your disposal is not the same. So, these are the decision that should be taken on global level and should affect all the airlines at the same way.”

Another interesting thing that was mentioned by one the interviewee is the issue of ETS (Emission trading scheme). TAP has a much broader perspective on this scheme as they see it on more global scope than at EU level. It was clear that they are not much supportive of the scheme as mentioned in the interview.

“These things are global problems that should be tackled on the global scale. It applies to lets says incentives and financial tools to reduce the emissions, but it should also look at the global scales.”

One of the key initiatives to be sustainable airlines includes TAP efforts to reduce fuel consumptions. They put a great deal of efforts and pay great attention to details to reduce the carbon consumption. And there are initiatives at both technical as well as operational level.

“There is a program that is ongoing that is about sharklet installed in A320, that basically is a wing extension that helps reduce the fuel consumption. It’s a big investment from airline site, and that basically we should save around 3% of fuel consumption in A320 family.”

TAP also educates their pilots to be part of the sustainable actions and all the pilots got training and directives in this regards. As one of the interviewee mentioned:

“We have always a lot of things going on with the pilots and improving the pilot techniques and how they behave at the aircraft level.”

An important thing to note was that besides doing all the sustainability actions, TAP puts safety of the passengers on the top and there are guidelines for such issues as one of the interviewee mentioned:

“...with bad weather we cannot expect pilots to use those fuel saving techniques to reduce the fuel consumption.”

At the operational level, TAP also does everything possible to reduce the fuel consumption. As mentioned by one interviewee:

“if you reduce the weight you reduce the amount of fuel that you load to the aircraft and then use of fuel burn. So there are things like reducing the seats weight, removing things that are unused during the flight and I am talking for example about the initiative that took place a couple of years ago to reduce a number of lemons on the aircraft. We understood we didn’t use the number of lemons that we load to the aircraft, so we reduced number of them. It is a minor issue, but it gives you the idea of the level of detail that we put.”

Furthermore,

“One thing that we also did in the past was to reduce a number of magazines, because you know, magazines weight a lot, especially depending on a paperweight. We reduced the number of magazines that we load to the aircraft so the aircraft weight was also lower.”

Regarding communication of sustainability within the company, one of the interviewee mentioned:

“We have like a corporate email that is essence to everybody telling some news. Among that news are the ones related to sustainability, environment and so on. People are generally aware.”

Second interviewee mentioned that sustainability is communicated inside TAP:

“Through the company magazine, internal TV channel, comments on pay slips.”

It is pretty much clear that TAP take it seriously that its sustainability actions are well communicated and employees are continuously updated on the similar issues.

TAP is not doing much to assess how the sustainability is perceived by its customers and there is specific mechanism in place to measure it but they are in process of implementing a system to get feedback from passengers on several aspects as mentioned:

“We are implementing a voluntary passengers’ feedback tool that will give us a significant information such as how was the experience at the airport level, how was the experience at the aircraft level, ticket purchase or whatever.”

They also took some actions to enlighten/communicate their sustainability actions on board as mentioned by one interviewee:

“Having the inflight entertainment system, we can regularly display information on things that we do. That is not yet for today achieved, we try to load on occasional basis like once a week or month some information to passengers, which I think will improve the passenger perception of how efficient and green is the airline.”

TAP clearly has a clear roadmap to follow in future for sustainability.

“Today we have a plan of new fleet coming in. This new fleet will be the biggest contribution to increase fuel efficiency. This new fleet will reduce on the per seat basis at least 15% of the fuel expenditure. We estimate something between 15% or 20% save on the next couple of years.”

“Today TAP is located on peripheral buildings and we are moving to new buildings and it will help us improving the company efficiency at the non-aircraft level. It will improve in terms of energy management the electricity, water consumption, everything.”

6. Discussion

Sustainability has been major concern for all businesses including transport industry as it been reported that 15% of all CO₂ emissions by 2050 will be coming from aviation sector (Olsthoorn, 2001). Businesses were and still are under immense pressures from European Union and other governmental bodies to adapt to more socially sustainable practices for the betterment of society, environment and economy.

The project aims to look at the sustainability reporting and performance in the airlines industry by comparing different airlines and using TAP Group as a case. The project looked at the emergence of the sustainability in general and provided the detail background and history of the topic. It is important to understand that although I provided the definition of the sustainability, the term is still considered vague and firms have different definitions according to their business models and requirements. It is also important to mention that basis of all the definitions lies in social, economic and environmental perspectives.

Following the emergence and detailed literature review of the sustainability and sustainability of aviation industry, I did brief comparative analysis of different airlines and looked at their profiles and sustainability. What appeared clearly is that all airlines do take sustainability issues seriously and the issues is mentioned and discussed on their corporate websites. Key activities are also mentioned by these airlines but there are varieties of topics that are covered where some put great deal of efforts in their actions. For example, SAS is really at the forefront on the sustainability issues and write in detail about their actions and one can even calculate the carbon emissions on their websites. TAP also provides the same opportunity and I think this is a very good step and customers can quantify the impact they are having on the environment. Previously such tools were missing or were not put in practice but such tools make sustainability actions more pronounced and transparent.

Another pattern that emerged from all these actions by different airlines is the involvement and engagement of local communities in their efforts by sponsoring different events and activities. Some airlines also promote themselves to follow corporate citizenship behaviors and work towards the betterment of people and communities and also taking good care of stakeholders. There is a clear lack of details on this topic but we can hope to see more efforts and communications of those efforts in coming years.

Regarding communications of sustainability actions, most of the firms are publishing their own sustainability reports since last few years and keep their employees, stakeholders and

customers up to date on their initiatives. It is interesting to see that European airlines are doing more regarding the communication of their efforts and we see that airlines from middle east e.g. Qatar airways do not publish any sustainability report. We can see the substantive expansion of Qatar airways in last years but surprisingly very less efforts done by them in sustainability dimensions. There are also concerns about the labor conditions and laws in Qatar airways. Low cost airlines also do not publish much on the sustainability issues but it is understandable as they have financial constraints to do so. Of course they do sustainable actions but not communicate them like other big airlines.

Then I did a detailed analysis of the annual reports of the TAP Group from 2009 – 2014. I analyzed the structure of the report that is important in the sense that it shows that how sustainability reporting has evolved over time and what factors appear in the most recent reports. An important feature that is reflected in all reports is a message from the chairman. This is really important of the report that tells what TAP Group has achieved and where it is heading now. Same as letter to shareholders in the annual reports that is reported by researchers as a key source of organizational vision and future directions (Short et al., 2009), these letters in sustainability reports hold key insights and organizational values about sustainability.

TAP Group clearly communicates its organizational and governance structure in their annual sustainability reports with who reports to whom. Important to note is that they have specialized sustainability and corporate governance commission that reports to general and supervisory board on important sustainability issues. They also have a post of Chief sustainability officer that shows the importance given to sustainability issues and which also acts an integrative device between the different departments to communicate the sustainability issues and creating the overall goal of how to be more sustainable. They include organizational members in the strategic planning process including sustainability and further communicate the results and goals across the organization by creating different events and seminars.

Another important point to note by looking the sustainability reports is that, initially TAP Group did not report on external social responsibility issues more clearly and from 2013 onwards they are reporting on this issue more intensively. Same is the case with the promotion of the environmental responsibility that became an important part of more recent annual reports.

What we can get from all this? It is clear that quality of sustainability reporting has improved over time and not only in reports but also in reality as many substantive measures had been taken by TAP. I will discuss the economic, social and environmental dimensions one by one.

Regarding the economic perspective, we can clearly see from the most recent report that despite the turmoil at TAP, the numbers of passengers have steadily increased in last years from 10.2 million in 2012 to 11.2 in 2014. This tells us about the strong believe and trust of the customers in the TAP. TAP also played a major role in the export of the services and the numbers also increased over time in recent years. If we look at the creation of employment, it increases from -97 in 2012 to 434 in 2014, which is a good sign of the economic as well as social perspective of the TAP. There is a substantial increase in the investment in innovation further gaining the support of the society and internal employees of firm's commitment to provide good services.

One of the most important parts mentioned by TAP is the measurement of the passengers' perception of their service. They evaluate the passengers' satisfaction on the Likert scale from 1 (very unsatisfied) to 10 (very satisfied) and have above average points in the evaluations. I tried to find how they run this survey but there is no information in the annual report. They also measured the perception about the ground services and found a good evaluation on that dimension. This tells us that TAP has a systematic procedure to not only measure the overall satisfaction of the passengers but also their perception about the ground services and it also shows us that TAP put a great deal of efforts in making their customers happy and not having any customer related issues. But I insist here, that TAP can make the customers loyalty and perception measure more transparent by providing more information on how they gather information and how it is evaluated. That part is not very clear. On the personal experience, I have travelled with TAP few times and did not have a chance to report on such issues. Working on those lines can bring more insights from the customer's point of view and how to make things better.

Another important thing I want to mention is that all the economic indicators are available in their sustainability report. Anyone can get access to their reports online now and see the relevant information. This is a big step in being the transparent airlines and more socially responsible company.

Another reason for TAP Group to report more on the economic dimension is that TAP Group has been having hard times since many past years and they want to highlight that despite the

turmoil, they are still able to pay attention and actually help in the economic dimension of the sustainability. This is kind of turning their weakness into their strength by not only accepting but also clearly stating in their reports.

Now looking at the Social dimension of sustainability by TAP Group we see interesting things done by TAP Group over the years. TAP Group put great emphasis on the general labor conditions and also towards the improvement of employment conditions both in Portugal and abroad. For the external social responsibility and society wellbeing, many interesting measure have been taken by TAP Group by incorporating different communities including people from all age groups and professions especially from Portuguese speaking world including past Portuguese colonies etc. This is a way of reporting or communicating their activities to more general public and also work towards their progress.

Frequent visits of TAP personnel to different events in schools help them in communicating how the airlines work and how they better serve with much less damage to environment. Regarding the employees' conditions, TAP works constantly on the related issues and work on several different programs related to it. Gender equality is an important issue for TAP and they have 41 % woman working in the company.

However, it seems that TAP shows only the positive sites of their employment conditions and doesn't mention union strikes or employment-related problems. Communication of these issues is another story as all above airlines only reports on the positive side of the picture and do not report on the problems and black issues if I can call them. Being transparent and reporting on achievements as well as accepting weaknesses can help airlines to claim to be more socially responsible and sustainable. This is a tough road to follow but one cannot claim to be sustainable without doing it.

Environmental reporting was another analyzed dimension of TAP and other airlines. As environmental concerns are the biggest challenge of aviation industry, the reports give the biggest focus to explain their green actions.

What is striking while reading environmental section of reports in all of the airlines, is the impression that they participate in a kind of a race to become green and ecological-friendly, whilst it is very obvious that industry that rely on fossil fuels cannot become ecologically sustainable. Although, I explained in the literature review that bio-fuels might be a solution for it, it is still in early stages and it will take years until it will be possible for the airlines to introduce them on the daily-basis. So by now in the sustainability reports in aviation industry,

most attention is given to reducing the emissions to the atmosphere, which was also defined in the literature review as a central aspect and challenge of sustainable aviation. Common discussed topics are carbon offsetting, achievements, future goals and investments in technologies.

TAP has an outstanding performance regarding carbon offsetting. Passengers of TAP offset more than 16 thousand tons of CO₂ only in 2014. Since the beginning of the program, each year the number of offsets was increasing the tons of CO₂ offset exceed 50 thousand. I think that the success of the program is a perfect example and a big step towards creating green image of a company. It also shows that engaging customers into reducing environmental impact of aviation can do a lot.

I discussed in the theoretical part of the thesis, that to achieve sustainability the long terms objectives are necessary. Let's see how forward TAP is looking in the future. Improving energy efficiency and reduce CO₂ emissions by 1,5% a year are scheduled until 2020. From that year, TAP Group will focus on stabilization and forecast that carbon emissions will be only 50% in 2050 to what they were in 2005. This is a very optimistic approach, but looking at the previous reports and the reductions it seems to be doable. To conclude, I would like to point out that the airlines make a lot of effort to show us that they are on the good way to be environmentally sustainable and that they do have a long terms objective.

Next to future goals, they report on their innovations and technological improvements. Fleet modernization, purchasing new aircraft and investing in research is visible in all of the analyzed reports. In TAP Group reports, especially in the few last reporting years, we see much more information about technological projects.

Number of initiatives undertaken by TAP and communicated on corporate websites on other airlines shows that airlines are under immense pressure from stakeholders to improve their green image. Apparently they do so, but is it image corresponding to the real actions undertaken by airlines? This question, although not considered at the beginning of the study, emerged from the reflection on the airlines reporting. How the industry that relies in such great part on fossil fuels can be sustainable? Do their actions result from the real will to improve or is it just a greenwashing to please the stakeholders and governments?

TAP Group performance in environmental reporting is very correct and detailed. The company is consistent on their action and takes accurate initiatives, which lead them towards being more sustainable in the future. But considering the current condition of a company, it is

not suitable to call it sustainable from all point of views. First of all, since many years the company has been in financial troubles and although it brings the benefits for Portuguese economy and attracts more passengers each year, there is still long way to go for the company to have a stable economic position on the market. From social perspective, TAP Group performs really well. We see the efforts being made in previous years to improve employment conditions. Additionally, external social performance is a part of company's strategy since the beginning of reporting period. Finally, if we look at the environmental perspective there is a great effort that has been made to develop carbon offset program and promote environmental awareness. The previous records also show the reduction in emission of CO₂, waste, paper or electricity. To sum up, a lot of effort has been made in recent years to improve the company's green image and if the company will continue their effort in the future it will be a great contribution to more sustainable world.

Two interviews conducted at TAP provided more in depth picture of how sustainability is perceived, treated and communicated in TAP airlines. The interview provided details of the sustainability actions at the technical levels where new amendments were made in planes to reduce fuel consumption. Pilots now get trainings on how to be more fuel-efficient. Furthermore, at the operational levels great attention is being paid to reduce the weight of an aircraft by decreasing the number of lemons and magazines in planes, for example.

The communication inside TAP is done through corporate email notifications and all employees are updated regularly on those issues. TAP has already taken number of steps to communicate their sustainability actions by implementing feedback tools and inflight information providing. More needs to be done in this direction and they are fully aware of it.

7. Limitations and future research directions

The study also has few limitations. First, there are very few number of interviews conducted because of the difficulties in accessing to the personals. Despite of sending many requests for interviews, the response rate was very low. Second, the size of the sample was not big enough and that is a big hurdle in generalizability of the study. Third, most of the airlines studied here are European airlines and do not speak for the whole industry worldwide. For instance, airlines in South-East Asia might perceive and dealing with the sustainability in different way but tapping them into this thesis was beyond the scope.

The future research can look in more depth by having more interviews. Another possibility to get to better know how sustainability is perceived, dealt and communicated is to do a survey analysis, which could be bit challenging, as companies are very sensitive in responding to such issues. Another possibility is look at the specialized databases on airline industry that can help better understand the actions. Unlike manufacturing industry, there are fewer players in airlines and getting data from public listed firms can be a problem as the sample size will not be too big.

8. Conclusion

The aim of the study was to look at how sustainability is perceived and communicated in airline industry with TAP as a case. A brief comparative analysis is done on ten different airlines and two semi structured were conducted in TAP. The conclusion of the study is that airlines are becoming more and more serious in their efforts to employ sustainability strategies. They have become more transparent over years by revealing the initiatives and efforts they put in. Reporting on sustainability initiatives, achievements and futures goals are now communicated through corporate websites and in annual sustainability reports. It became evident that European regular carriers are doing much better in adapting sustainable practices and TAP is at the forefront. Communication and tapping the customer's perception about sustainability initiatives by airlines needs much more attention. Much rigorous work needs to be done to include other major airlines from different parts of the world to have a more global picture on sustainability initiatives and aviation industry.

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Appendices

Appendix I – Interview with fleet manager of TAP Group

Q: Can you tell me briefly what is your role in TAP?

A: On the airline side, on the fleet management, the department I work for, we take care of operational efficiency. Mainly improving the aircraft to deliver better fuel efficiency, to reduce the aircraft weight, improve the pilots techniques – so at the end company achieves better fuel consumption and better fuel efficiency comparing to the previous periods.

Q: What are the biggest challenges for the fleet management in terms of sustainability? What are you working on currently?

A: There is a program that is ongoing that is about sharklet installed in A320, that basically is a wing extension that helps reduce the fuel consumption. It's a big investment from airline side, and that basically we should save around 3% of fuel consumption in A320 family because. That is, I would say our initiative number 1.

Q: And could you tell me about other ones a little bit?

A: Finding new materials that go on-board that will help reduce the aircraft weight because weight is directly connected to fuel consumption – if you reduce the weight you reduce the amount of fuel that you load to the aircraft and then use of fuel burn. So there are things like reducing the seats weight, removing things that are unused during the flight and I am talking for example about the initiative that took place a couple of years ago to reduce a number of lemons on the aircraft. We understood we didn't use the number of lemons that we load to the aircraft, so we reduced number of them. It is a minor issue, but it gives you the idea of the level of detail that we put. To save 40 thousand euro at the end of the year, we reduced the amount of lemons that goes in. Obviously it's minor, but remarkable from a point of view that we look for all the things that goes on board and we do everything to reduce that weight. One thing that we also did in the past was to reduce a number of magazines, because you know, magazines weight a lot, especially depending on a paperweight. We reduced the number of magazines that we load to the aircraft so the aircraft weight was also lower.

Among other things, we have a lot always of things going on with the pilots and improving the pilot techniques and how they behave at the aircraft level. And more, as important as telling the pilots about the ideas how to improve is being able to monitor how they do it - so checking if they do it correctly and if they do it all the time. If, one thing is, developing a process for them to do something, another is being able to do it all the time or not. For

example, with bad weather we cannot expect pilots to use those fuel saving techniques to reduce the fuel consumption.

Q: I see you are communicating sustainability well to pilots. Can you tell me the other groups that you are communicating or reporting to about sustainability issues?

A: Ok, in fact, to be honest right now we are having an issue in that reporting. Couple of years ago we had regular internal meetings within all the areas that has been involved, there was a group named a fuel conservation group, and we always had at least two meetings per year where we have shown the last six months results, what went wrong or what went right. We were trying to find the procedures to ensure that on the following six month we will be better than before. That was until 3 years ago when we somehow stopped those meetings for a while, because of other problems that were ongoing at the same time and we didn't have enough resources to do that. Today the plan is to come back to those regular meetings and being not only able to have those meetings on regular basis but also having like a monthly report, a very basic one, but in summary saying what was the amount of fuels that was burnt, in terms of fuel efficiency, KPI (Key Performance Indicators) and do a brief comments so that people get engaged and they receive information on regular basis so they don't forget what is the main objective of a company.

Q: But for the moment you don't have any meetings and you can say that the communication of sustainability within TAP is not good?

A: On the operational level its not good right now, yes.

Q: And I would like to ask you another question maybe not related that much to your function. Tap reports talk lot about social sustainability, especially in-house that they employees are well aware of it? How do see it as an employee?

A: We have like a corporate email that is essence to everybody telling some news. Among those news are the ones related to sustainability, environment and so on. People are generally aware. There are couples of initiatives that are done on regular basis that help us understanding that something has been done. And if you ask me – should we do more? Yes I guess we should do more, but there is something going on. And I feel that significant number of people is aware of corporate sustainability program that is growing in the company. People are generally aware that TAP is one of the most fuel-efficient airlines. And I don't know if you are aware, but I can send you information, but tap has been voted as second most efficient airline in the world in terms of fuel efficiency. And that information has been also validated externally on IATA audit that we have done on fuel efficiency. Can you tell me how do you find sustainability?

Q: That what we do right now, the mobility, we are not compromising the ability of future generations to meet those needs. We don't destroy anything; we keep things as they are. And how do you define it?

A: Mostly the same. For sure the biggest issue is being sustainable and being profitable at the same time, because we don't operate on very friendly environment. Because we are almost fully dependent on fossil fuels so there are not so many alternatives to use that could be sustainable future-wise alternative to fossil fuels Unfortunately there isn't now, but we need to believe there will be – electric, hydrogen. Unfortunately there are significant numbers of years away. There is a lot being said about green fuels. I think green fuel is a way to somehow mitigate the CO2 impact but they don't clearly present themselves as a solid alternative to the fossil engine, the regular fossil fuel and they suffer a lot about one problem that is very characteristic to the airline industry – those possibilities are not available everywhere where you fly. Imagine for a company that flies only in Poland between one or two airport – it would be eventually very easy to implement continuous supply of hydrogen or whatever to the aircraft. But if you fly from Poland to middle of Africa, the probability of having that fuel available there at your disposal is not the same. So, these are the decision that should be taken on global level and should affect all the airlines at the same way. It's a bit like ETS, do you know about it?

Q: Yes.

A: I was responsible of implementing EU ETS into TAP, into developing the process of controlling the emissions. At the beginning I was strong opponent to the way that was being done, because it only affects the European airlines and only looks at the local basis. These things are global problems that should be tackled on the global scale. It applies to lets says incentives and financial tools to reduce the emissions, but it should also look at the global scales. That I think is a very strong argument that you should use on your work, because these things that affects TAP should affect all the others. If you say TAP is not communicating sustainability internally very well is a TAP specific problem, but the way that TAP sees the sustainability and the way that TAP challenges itself is TAP problem or Lufthansa problem or others, we are all the same.

Q: I would like to ask you maybe the final question. How do you see TAP sustainability in the future, let's say in five years? Which direction is it going?

A: Let me think of it. Today we have a plan of new fleet coming in. This new fleet will be the biggest contribution to increase fuel efficiency. This new fleet will reduce on the per seat

basis at least 15% of the fuel expenditure. We estimate something between 15% or 20% save on the next couple of years. TAP is also very keen in continue with program as sharklet modification to improve aircraft efficiency. We are working to give tools to the pilots to take better decisions, be better informant, updated about information about flight so they can find better flight paths, to approach airport and increase fuel efficiency. There is also another thing that is not related to aircraft itself – for example changing our headquarters. Today TAP is located on peripheral buildings and we are moving to new buildings and it will help us improving the company efficiency at the non-aircraft level. It will improve in terms of energy management the electricity, water consumption, everything. There is couple of possibilities in head of us; we are aware of them; we are keen to find new tools to improve fuel efficiency. Among those things I left one thing to the end – communication. I think communication is one very essential tool to improve efficiency. I don't say it will have a direct impact on fuel efficiency but long term it has a quiet important effect because people get motivated. Each and every persona is aware what is their role in the company, how they can contribute, what is the effect of their work in the overall picture. At the same time, this is recognition from a company site that workers are performing well and are integrated in global policy and it's also individual who aim to do their work better.

Q: I have one more question for you; do you know if TAP is measuring passengers' perception of sustainability? If yes, how you are doing it?

A: We are not measuring the passenger's perceptions of sustainability.

Q: So you don't know if carbon offset program for instance has an impact on passenger's choice?

A: I am almost sure that no, but I will check if any of my colleagues has that information. By the way we are implementing one tool that will give us something like that. We are implementing voluntary passengers feedback tool that will give us significant information such as how was the experience at the airport level, how was the experience at the aircraft level, ticket purchase or whatever. Among one of those questions can be "what is your perception about TAP, what is your perception about TAP efficiency and how green is TAP?" We are also trying to find ways, not trying – we are doing it, on communications with the passengers regarding things like fuel efficiency. Having the inflight entertainment system, we can regularly display information on things that we do. That is not yet for today achieved, we try to load on occasional basis like once a week or month some information to passengers, which I think will improve the passenger perception of how efficient and green is the airline.

Appendix II – Interview with former Board Member in TAP Group

Q: Sustainability is quite vague term and almost every company has its own understanding of it. How you define it? How important is it for TAP?

A: TAP defined it as engaging in practices other than or complementary to the direct pursuit of economic profit. Still of limited importance but clearly gaining ground.

Q: TAP was the first airline to introduce carbon offset program. Briefly, could you tell please what were the motivations to do so?

A: TAP understood the potential negative impact of its activity and felt a moral obligation to compensate for that. Additionally, environmental consciousness is a trend that, if anything, will not be reversed. So rather than facing a future problem TAP decided to tackle it whilst still small and learn in the process.

Q: The first Sustainability Report has been published in 2006, what has changed since that time in the way you construct your reports?

A: Essentially, in the early days was felt more a “weird, little thing” or “let us do it just because” but with time has become a rather serious project and mindset that has helped all changing behaviors.

Q: What is the biggest sustainability challenge for the airline nowadays?

A: Still, offset carbon emissions into the atmosphere.

Q: What is the role of sustainability reports in the communication with passengers?

A: Still relatively small but increasing. Some markets are more sensitive to it than others. It is starting to be a must have.

Q: What are the biggest steps that TAP take to present the sustainability image to their passengers?

A: References in all communication be it the site, inflight magazine or verbal notes on board.

Q: Is there any way you measure the passengers’ perception of your sustainability actions?

A: Yes (I am not aware of details now).

Q: According to you, does the sustainability image of an airline have influence on passengers’ choice of an airline?

A: More and more so, yes.

Q: Currently TAP Group hires over 11 thousands employees, how do you communicate the sustainability actions to them?

A: Through the company magazine, internal TV channel, comments on pay slips.

Q: How do you see TAP Group sustainability in 5 years, what are the future directions for communicating your sustainability actions?

A: Just keep pushing the same levers although low oil prices tend to decrease its role. Sustainability also helps companies save costs and they are more alert in high price oil environments.

However, other initiatives will continue to increase. As the word of mouth goes on, beneficiaries from sustainable activities will create an external pressure on companies to do more.